

AGENDA

Planning and Zoning Commission

April 3, 2024 – REGULAR MEETING

5:30 PM

The New Business items have been placed on the agenda in the order they were received. Please note that at 8:00 p.m., the Commission will evaluate the remainder of the agenda to determine if time constraints will permit the full agenda to be heard at this meeting. All items not heard at this meeting will be postponed to the next regularly scheduled PC/BOA meeting.

NOTICE: THE VIDEO AND AUDIO FOR THIS MEETING ARE STREAMED TO THE PUBLIC VIA THE INTERNET AND MOBILE DEVICES WITH VIEWS THAT ENCOMPASS ALL AREAS, PARTICIPANTS AND AUDIENCE MEMBERS

PLEASE SILENCE ALL ELECTRONIC DEVICES DURING THE MEETING

1. ZOOM LINK FOR PUBLIC PARTICIPATION

The Town reserves the right to close Public Comment via Zoom at any time. In-person comment will continue to be taken and written comments can always be submitted to the Planning Department at planning@jacksonwy.gov.

- I. To join, click link or copy it to your browser: <https://us02web.zoom.us/j/84907663497?pwd=M0hLRkVTRk9QNWhOVGdCVHNFMIRBQT09>
Or join at zoom.com with Webinar ID: **849 0766 3497** and Password: **83001**

2. CALL TO ORDER
3. ROLL CALL
4. MATTERS FROM THE PUBLIC
5. APPROVAL OF MINUTES
 - I. March 20, 2024 PC/BOA Regular Meeting Minutes
6. OLD BUSINESS
7. NEW BUSINESS
8. BOARD OF ADJUSTMENT
9. PLANNING COMMISSION
 - I. P24-002 335 N. Cache et al - Sketch Plan
10. MATTERS FROM THE COMMISSION
11. AGENDA FOLLOWUP
12. MATTERS FROM STAFF
13. ADJOURN

MINUTES
PLANNING AND ZONING COMMISSION
TOWN OF JACKSON, WYOMING
March 20, 2024
UNAPPROVED

The Planning and Zoning Commission met in a regular session on March 20, 2024, in the Town Council Chambers located at 150 E. Pearl in Jackson, at 5:30 pm. This meeting was held in-person and via Zoom.

Upon roll call the following were found to be present:

BOARD: Katie Wilson, Anne Schuler, Thomas Smits, Christie Watts(via zoom), Abigail Petri(via zoom)

STAFF: Paul Anthony, Katelyn Page, Casey Holden

MATTERS FROM THE PUBLIC:

APPROVAL of MINUTES: A motion was made by Thomas Smits and seconded by Christie Watts to approve the March 6, 2024, regular meeting minutes. Katie Wilson called for the vote. The vote showed all in favor. Anne Schuler abstained. The motion carried.

OLD BUSINESS: None.

PLANNING COMMISSION:

ITEM P24-018: 210, 230 N. Glenwood St. – Glenwood Hotel – Sketch Plan

STAFF PRESENTATION: Katelyn Page

QUESTIONS FOR STAFF:

Staff were asked to explain the transfer of credits and the preservation of the building. Staff explained the housing mitigation and transfer of credits on 8000 sf. The commission asked about the bulb out condition for approval and if it would be part of the full street, using Glenwood and Gill as an example. They also asked for clarification and the reasoning behind the condition and were informed that the Community Street Plan does not necessarily require the bulb out, but staff makes the recommendation based visibility and pedestrian safety as a key focus.

APPLICANT PRESENTATION: Adam Janak – Architect

Mr. Janak discussed the 19000 sf FAR and the introduction of TDR through the Historic Preservation. He showed renderings of the subterranean parking, off-alley parking, trees and grates setbacks, roof-top amenity, and a projected canopy. He pointed out that the canopy is close to the property line and understands that there would need to be an encroachment agreement for Gill Street if the placement of the canopy is too close to the property line. He also discussed the proposed conditions and working with Town Engineering to meet said conditions. Mr. Janak also talked about the bulb out as related to the neighborhood meeting. He stated that the neighbors

expressed concern about street maintenance and plowing during the winter. The site offers accessible ramps, a small kitchen, reception/lobby area, café, and 15 guest rooms on each of the upper floors with varying room types. He also commented on the elevations and that there are no cross slopes. He informed the commission that the Design Review committee approved the sketch plan with no conditions and were overall pleased with the design and material palette.

QUESTIONS FOR APPLICANT:

Commissioners asked where employees were going to park, if the café was open to the public, if parking was accessible from two entrances, and what the applicant thought about the proposed conditions. Further, the commission asked about the long-term bike parking and additional short term bike parking suggested by staff.

PUBLIC COMMENT: None

COMMISSION DISCUSSION:

The Commission discussed the requirements for bulb outs and the potential of people hitting the bulb out in the winter and snow removal taking away a parking space or two. The Commission generally likes the project but doesn't understand why housing mitigation is off site. In response, ownership team member, Sadek Darwiche responded that with a site this size, any housing unit would be in very close proximity to the employee's place of business. In his experience with similar properties and employee experiences, it is preferable to provide employee housing off site for privacy purposes. The applicant also mentioned that the proposed housing unit is 2-3 blocks from the site. The Commission commented that the sketch plan is further along than most projects. The Commission continued to discuss the bulb out condition and asked if the Commission could delete the condition. One commissioner said that the bulb out at Town Square makes sense, but a bulb out at this location, being the only one on that street, does not make sense. Two commissioners are indifferent to the bulb out at this location.

MOTION: A motion was made by Anne Schuler and seconded by Thomas Smits to recommend **approval** of Sketch Plan P24-018 for a new 38,000 sf hotel at the properties addressed at 210 and 230 N. Glenwood Street based upon the findings and the **seven** conditions, **minus condition two on the bulb out**, presented in the staff report, the departmental review, and subject to this staff report dated March 20, 2024. Katie Wilson called for the vote. The vote showed all in favor. The motion carried. Abigail Petri abstained from the vote.

MATTERS FROM COMMISSION: None

MATTERS FROM STAFF:

Director Paul Anthony discussed the three meetings scheduled in April, including a Joint Meeting on April 10, 2024, to discuss the Indicator Report and Work Plan. There was also discussion about the staff LDR text amendments for the removal of the Community Development Department and

updates to Findings based on the LDRs and Comprehensive Plan consistency. He also discussed budget season and the adjustment for inflation, but stated that no other significant increases would be made in FY25.

Adjourn: A motion was made by Anne Schuler and seconded by Abigail Petri to adjourn the meeting. Katie Wilson called for the vote. The vote showed all in favor. The motion carried. The meeting adjourned at 6:35 pm.

minutes:ll

STAFF REPORT



Meeting Date:	April 3, 2024	Meeting Title:	Planning Commission
Submitting Department:	Planning Department	Presenter:	Tyler Valentine
Agenda Item:	Sketch Plan for a new three-story, +/- 290,000 sf mixed-use hotel and condominium building along North Cache at the 11 properties listed below (P24-002)	Public Comment:	Yes

Purpose & Policy Considerations.

A Sketch Plan is required in the Commercial Residential – 2 (CR-2) zoning district by the Town of Jackson Land Development Regulations (LDRs) for projects with a qualifying base floor area that exceeds 13,800 square feet. Although the development is much larger in total square footage due to bonuses, basements, and non-habitable spaces, the proposed development’s qualifying base floor area is roughly 90,000 sf.

Requested Action.

The applicant, Mogul Hospitality Partners, is requesting a recommendation of approval of a Sketch Plan for a new three-story, +/-290,000 sf mixed-use hotel with 36residential condominiums and underground parking on a 2.75-acre site (including the portion of the alley to be vacated) at the following properties:

- 325, 335, 345, 355, & 375 N. Cache Street
- 45 & 65 Mercill Avenue
- 330, 350, 360, & 370 N. Glenwood Street

Recommendations.

The Planning Director recommends **approval** of a Sketch Plan for a new three-story, +/-290,000 sf mixed-use hotel and condominium building with underground parking at the subject properties, subject to the departmental reviews attached hereto and the following conditions:

1. As part of the Development Plan submittal, the applicant shall provide a landscape plan prepared by a Wyoming Landscape Architect that provides the minimum LSR and 12 plant units. Aside from the street trees which are a separate landscape requirement, the applicant shall demonstrate that the majority of the 12 plant units are used around the perimeter of the site to soften and screen the building consistent with the intention of the landscape standards of the LDRs.
2. The applicant shall work with the Engineering Department prior to Development Plan submittal to determine the appropriate amount of alley improvements based on the outcome of the alley vacation request.
3. As part of the Development Plan submittal, a parking management plan shall be provided that addresses how hotel and residential parking is managed, how spaces are assigned in the garage, which spaces are designed for commercial uses, and whether those commercial spaces are strictly for employees or the general public.
4. As part of the Development Plan submittal, the applicant shall ensure that the only features that exceed the 42’ height limit are rooftop stairs/elevators and railings that comply with the LDRs.
5. Prior to submittal of the Development Plan, the applicant shall work with Town Planning to ensure the building complies with the basement definition found in Division 9.5.
6. As part of the Development Plan submitted, snow storage needs to be identified that complies with the 2.5% requirement.

7. As part of the Development Plan submitted, the applicant shall reduce the width of the two curb cuts along North Cache to be no wider than 12' each.
8. As part of the Development Plan submittal, the applicant shall provide a loading area within their property boundary that allows large trucks to load/unload without needing to park in the alley and block access to existing parking spaces serving 390 N. Glenwood Street.
9. If the Town Council approves the alley vacation request, the Development Plan submittal shall include an increased amount of short-term bike parking at the Mercill and Glenwood pedestrian entrances to the paseo.
10. The applicant shall obtain all necessary permits from WYDEQ related to the Benzene Plume prior to building permit submittal.

Key Issues/Policy Questions

- Does the Planning Commission have any concerns or feedback on the alley vacation request related to the LDRs, site design, or building design?
- Does the Planning Commission have any concerns or feedback on the applicant's proposal to put their workforce housing off-site at The Loop?

Project Location.

The subject properties and an aerial photo are listed and shown below:

- 325, 335, 345, & 375 N. Cache Street (LOTS 1-8, BLK. 3, JONES)
- 45 Mercill Avenue (W. 60' OF LOTS 9-10, BLK. 3, JONES)
- 65 Mercill Avenue (LOT 11, PT LOT 12, BLK. 3, JONES)
- 330, 350, 360, & 370 N. Glenwood Street (N 40' LOT 12, LOTS 13-17, PT LOT 18, BLK 3, JONES)



Background/Project Description.

Background:

The entire subject property is within the 2 CR-2 zoning district and Lodging Overlay (LO). As proposed, the development utilizes 11 properties (2.59 acres, or 113,000 sf total land area, or roughly fifteen (15) 7,500 sf town lots) within a downtown block surrounded by four streets: North Cache Street to the east (400 linear feet), Mercill Avenue to the south (220 linear feet), North Glenwood Street to the west (350 linear feet), and Perry Street to the north (130 linear feet). The only two properties in this block that are not part of this development are 390 N. Glenwood Street (corner of North Glenwood Street & Perry Street) and 315 N. Cache Street (corner of North Cache Street and Mercill Avenue). All existing development within the subject property will be demolished and a full list of existing development can be found in the Housing Mitigation section of the applicant's submittal.

This downtown block is bifurcated by a 20' x 500' alley that runs north/south down the middle providing a connection between Perry Street to the north and Mercill Avenue to the south. The applicant currently has a separate request submitted to vacate the southern 360' of the alley that they intend to use for their development (Item PM23-006). If approved by the Town Council, it would add 7,200 sf of developable land area bringing the total development site area to 2.75 acres (120,200 sf). As proposed the remaining 140' of the alley at the north end connecting to Perry Street would remain as a public alley. Please refer to the Alley Vacation section below for more details.

A portion of the site has been impacted by contamination from an underground benzene plume from a previous gas station on the corner of North Cache and Perry Street. The state Department of Environmental Quality (WYDEQ) has been monitoring the contaminated soils for a number of years that are impacted by groundwater flow. At this time, much of the benzene has been remediated or dissipated, however, any remaining contaminated soil would need to be disposed of properly during the redevelopment of the site.

Project Description:

The applicant is requesting approval of a Sketch Plan for a new three-story, 42' tall, mixed-use hotel building. As proposed, the building consists of 171 hotel rooms, 36 market long-term residential units (not allowed for short-term rental) which are tied to the 2:1 Workforce Housing Bonus (referred to as "2:1 Bonus"), a spa, fitness center, retail space, two restaurants, two bars/lounges, a rooftop deck, and ancillary hotel office/meeting space. There are two basements, the lowest of which is the parking garage and the upper of which is habitable and daylights around the entire perimeter of the building. The building's total gross square footage is roughly 365,980 sf (200,641 sf above grade and 165,339 sf below grade). Roughly 290,000 sf of the total gross square footage is habitable conditioned space. The applicant is not proposing to use the 7,200 sf vacated alley (if approved) for additional FAR and is applying the 0.8 FAR to the original site of 113,000 sf.

The applicant is proposing to exceed their maximum 0.8 Floor Area Ratio (FAR) of 90,400 sf by utilizing the 2:1 Bonus which adds roughly 110,745 sf of additional above-ground habitable floor area (including associated circulation space). This brings the total on-site FAR to 1.77. Of the 110,745 sf 2:1 Bonus FAR, 75,088 sf is dedicated to 36 on-site market long-term residential units intended to be condominiums. The units range in size

from 1,234 sf to 4,357 sf. Rather than provide their workforce requirement of the 2:1 Bonus onsite, the applicant is proposing to provide their workforce requirement off site at The Loop apartment development at 1060 & 1080 South Park Loop Road by placing a workforce deed restriction on 38 market apartments that will total a minimum of 37,504 sf of floor area. In addition to the 2:1 Bonus, the base FAR generates an affordable housing requirement of 9.539 units which the applicant also proposes to provide off-site at The Loop by deed restricting ten market units. Below is a breakdown of each level of the building by square footage and use:

- **BASEMENT L2 (lower): 72,454 sf**
 - This level provides 220 parking spaces, bike storage, circulation space, and storage for the market residential units.
- **BASEMENT L1 (upper): 92,885 sf**
 - This level is a partially exposed basement that consists of 48 hotel guest rooms, a restaurant, a retail space, a fitness center, a spa, a bar lounge, meeting rooms, and circulation space.
- **FIRST FLOOR: 61,834 sf**
 - This level consists of the main hotel check-in area, 65 hotel guest rooms, a restaurant/café, trash & mechanical rooms, and circulation space.
- **SECOND FLOOR: 69,707 sf**
 - This level consists of 59 hotel guest rooms, 11 market long-term residential condos, and circulation space.
- **THIRD FLOOR: 69,100 sf**
 - This level consists of 26 market long-term residential condos, and circulation space.
- **ROOFTOP DECK:**
 - This area consists of two large open, non-covered, deck areas that include multiple seating/gathering areas, a bar, and a pool/spa.

Regarding the site, there are two vehicular entry points to the development. The main guest hotel entrance faces North Cache which includes a pick-up/drop-off entrance consisting of a one-way, semi-circular vehicular drive that leads to a porta cochere for valet parking. This entrance also serves as a main pedestrian entrance. The primary and only vehicular entrance to the underground parking garage is located off North Glenwood just south of the Cache Creek Motel and consists of a two-way driveway that leads to a below-grade parking garage. In addition, two pedestrian-only courtyard spaces are provided: one facing south along Mercill Avenue and another facing west along North Glenwood. These two courtyards are partially below grade and connected internally to a paseo (i.e., a large open promenade courtyard) which provides pedestrian access to guest rooms, an outdoor pool for guests, outdoor public gathering spaces, a retail space, a Moulton Barn-themed restaurant, and a bar/lounge area. At this time there are no proposed public access easements for the public courtyards on Mercill and Glenwood or the internal paseo, however, the applicant fully intends to allow public access and not prohibit it. Pedestrian improvements will be provided on all four streets and consist of a 5'-wide attached landscape buffer and a 6' detached sidewalk ensuring that all three pedestrian entrances are easily accessible.

Analysis.

Purpose of Sketch Plan

The purpose of a Sketch Plan is to publicly review a large physical development or development option for general consistency with these LDRs at a preliminary, conceptual level of detail before the development is fully designed. According to the LDRs, the objectives of the sketch plan review are:

1. *Identification of the opportunities to achieve the desired future character for the site;*
2. *Identification of development-related issues to be addressed through the development plan;*
3. *Discussion of alternative site designs that may better implement these LDRs; and*
4. *Identification of natural and scenic resources protected by these LDRs.*

After reviewing the applicant's submittal, staff finds that, as conditioned, the proposed project complies with the LDR requirements of the CR-2 zone for a Sketch Plan. Sketch Plan approval permits the submittal of a Development Plan, it does not permit actual construction. The applicant will be required to address any concerns raised during Sketch Plan and meet all conditions of approval when they apply for a Development Plan. Below is an LDR Compliance table for the CR-2 zone:

	CR-2	Proposed	Complies?
FAR	0.8 base max (90,400 sf) + 2:1 Workforce Housing Bonus (no sf limit)	Base FAR = 89,896 sf 2:1 Bonus = 110,745 sf Total Above Ground Habitable = 1.77 FAR or 200,641 sf	Yes
LSR	10% or 11,512 sf	13,158 sf	Yes as conditioned
Plant Units	12 required	Not shown. Condition of approval added.	Yes as conditioned.
Height	42' (< 5:12 roof pitch)	42'	Yes
Stories	3 max	3 stories with 2 basement levels	Yes as conditioned
Parking	<u>CR-2 Standard:</u> Lodging: 0.75 per room Condos: 1.5 per DU Restaurant: 1/73 sf dining Bar: 1/40 sf bar Retail: 3.37 per 1,000 sf <u>Parking Credits:</u> Street Parking Credits = 27 TOTAL CREDITS = 27 spaces	<u>Requirement:</u> Lodging (171 rooms) = 128 Condos (36) = 54 Main Restaurant (2,000 sf) = 27 Café Restaurant (1,500 sf/3) = 7 Bar/Lounge (2,400 sf/3) = 20 Retail (2,497 sf) = 8 TOTAL REQUIRED: 244 spaces – 27 on-street credits = <u>217 spaces</u>	Yes

	(credits can only be used to mitigate the commercial uses and cannot be used for lodging/residential condos)	TOTAL PROPOSED = 220 spaces ADA: 7 spaces provided EV: 66 capable + 11 installed	
Primary Street Setback (Cache)	0' – 10'	0' – 10'	Yes
Secondary Street Setback (Mercill)	0' – 10'	0' – 10'	Yes
Secondary Street Setback (Glenwood)	0' – 10'	0' – 10'	Yes
Secondary Street Setback (Perry)	0' – 10'	0' – 10'	Yes
Side Interior (southeast corner)	5' min	5'-6'	Yes
Side Interior (southwest corner)	5' min	5'-6'	Yes
Street Façade Width (min)	Cache: 70% of 400' = 280' Mercill: 35% of 220' = 77' Glenwood: 35% of 350' = 123' Perry: 35% of 130' = 46'	Cache: 260' + forecourt provided Mercill: 132' provided Glenwood: 243' provided Perry: 120' provided	Yes
3rd Story Step-back	10' for 40% of building Cache: 40% of 260' = 104 Mercill: 40% of 132' = 53' Glenwood: 40% of 243' = 97' Perry: 40% of 120' = 48'	Cache: 182' provided Mercill: 68' provided Glenwood: 101' provided Perry: 61' provided	Yes
Pedestrian Frontage	13'6" for Trees in Grate	13'6" Trees in Grate	Yes
Forecourt	- Max width of 1/3 of building - Min depth of 35' - Elevation within 30" of finished grade.	93' max width. 88' provided. 47' deep. - No elevation change.	Yes

Conformance with the Comprehensive Plan

This site is located in Character District 2: Subarea 2.3: Downtown. This is a *Transitional* area intended for redevelopment with a mixture of two to three-story commercial, lodging, and residential buildings, a high level of pedestrian and transit connection, high-quality public spaces, and a high concentration of tourist-related accommodations and services. Parking should be hidden or underground and buildings should create an attractive street wall to encourage pedestrian activity. Other than street trees, landscaping, and green areas are minimal and largely provided voluntarily. Two goals of this subarea are 1) creating a vibrant mixed-use area by accommodating a variety of uses and amenities and providing a balance between lodging and long-term residential housing, and 2) creating a consistent building size and form through attractive street walls, two to

three-story buildings, and good urban design principles including massing, articulation, and provision of public space.

Staff finds that as conditioned, the project is generally consistent with the above-mentioned goals at a Sketch Plan/conceptual level. Overall, the proposed building is mixed-use with lodging, residential, and other commercial uses which are desired. In addition, the parking is underground and not visible from the public roads which creates more opportunities for attractive street walls. New pedestrian improvements will be provided adjacent to the building on all streets which will be an improvement compared to the existing conditions which consist mostly of unprotected attached sidewalks with no buffer zone. These improvements will also encourage pedestrian movement in this area to support both the new development and existing developments. With all that being said, the applicant will need to continue to work on their design to better align their project with the second goal related to consistent building size, attractive street walls, and the use of good urban design principles including massing, articulation, and provision of public space. Since the Town's Design Guidelines address these design principles more directly, please see the Design Review Committee (DRC) section below.

Alley Vacation

As mentioned above, the applicant is proposing to vacate the southernmost 360' of the 500'-long alley (7,200 sf of land area) between Mercill Avenue and Perry Street to use toward their development site. The northernmost 140' of the alley would remain as a public alley continuing to serve the Cache Creek Motel and the applicant's new development. In exchange for vacating the alley, the applicant is offering to pay the Town's portion of constructing the left-hand turn lane for The Loop project and further deed restrict 30 workforce units at The Loop as affordable units. Ultimately the decision to vacate the alley falls on the discretion of the Town Council. Staff notes that the applicant is taking a risk that the alley vacation request could be denied by the Town Council. If the alley vacation request is denied, the overall building and site design would need to be changed and likely require a new review by the Planning Commission and Town Council as part of the Sketch Plan. As far as the Planning Commission is concerned, this Sketch Plan should be reviewed assuming the alley vacation will be approved. Staff, however, is seeking the Planning Commission's general thoughts and concerns, if any, on the alley vacation as it relates to LDRs, building design, site layout, etc.

From a site and building design standpoint, staff acknowledges that there are some overall benefits from vacating a portion of the alley. For example, the internal space gained through the alley vacation allows for a more unified and cohesive building design that is not split down the middle by a 20'-wide alley. This in turn allows to provides greater flexibility for the project to interact better with the streets and pedestrians through large recesses. This is seen along Mercill and Glenwood which both have large recesses in the building that open up the site to pedestrian courtyards. This not only helps break up the street wall on these streets but also activates these areas and provides engaging/welcoming outdoor spaces that typically do not exist in our downtown urban developments. Design benefits from vacating the alley are also seen along North Cache where the main valet vehicular entrance is located. This entrance not only provides a clear sense of arrival but is helpful to the design because it creates a break or relief in the street wall along the Cache frontage which happens to be 400' long. In contrast, if the alley remains, it is likely that the design would result in longer continuous street walls along all streets frontages because much of the outdoor amenity space might be oriented inward to the building or off the alley similar to the Springhill Marriott on Simpson Avenue or the new Pearl/Cache redevelopment of the Ranch Inn. In general, staff acknowledges that the alley vacation offers a significant opportunity to open the design to the adjacent public streets, resulting in good urban design outcomes that benefit the public.

Benzene Plume

The applicant has provided a geotechnical report that acknowledges the existing site contamination due to the historical Texaco that used to be located at the northeastern corner of the development (375 North Cache Street). The applicant is aware they will be required to work with WYDEQ and obtain any required permits before commencing construction that address the removal and/or treatment of any contaminated soil and groundwater. This is especially important to the Town to prevent untreated contaminated groundwater from entering the Town storm sewer system. A condition of approval has been added requiring that the applicant obtain all necessary permits from WYDEQ related to the Benzene Plume prior to building permit submittal.

Building & Site Design

As proposed, this building and site would be the largest in the Town's history with nearly 1,100 linear feet of street frontage along all four streets and a maximum gross square footage of 365,980 sf. Comparably, the 400' long façade on Cache Street would also be the longest building façade in downtown Jackson, over twice the length of The Cloudveil hotel on Center Street and slightly longer than the Pearl/Cache redevelopment of the Ranch Inn. Also, the building is over five times the size of the Pearl/Cache development. Despite this context, the CR-2 zone does not regulate maximum building size, cap the number of adjacent lots that can be developed, cap the number of lodging units per development, or cap the amount of 2:1 Bonus. The previous zoning (Auto-Urban Commercial) did however have a maximum building size of 15,000 sf by-right, up to 35,000 sf in the Lodging Overlay with a Conditional Use Permit (CUP), and limited lodging operations with multiple buildings to no more than 90,000 sf per development. The only zones that currently have a maximum building size cap are Town Square-1 (TS-1) and Town Square-2 (TS-2) which limit buildings to 15,000 square feet. Ultimately, the Town's Design Guidelines play a major role in addressing the bulk, scale, and mass of developments. The Design Review Committee (DRC) section immediately below provides a more detailed summary of the design review process.

At a conceptual level, staff finds that the proposed building and site plan are consistent with the goals of the CR-2 zone by hiding all the parking from public view and creating a strong street wall and holding the street corners, while still setting back large portions of the building along each street to break up the street wall, provide pedestrian entrances/courtyards on multiple streets, introduce some active and engaging commercial uses on the ground level (Mercill and Glenwood), and provide private outdoor spaces for the condominium tenants (i.e., balconies and rooftop decks). The building is three stories with a flat roof design and is a maximum of 42' in height. As a result of the third-floor stepback requirement, the building has various sections along the third floor of each street that are stepped back 10' which helps to further break up the building mass and vary the rooflines. Additionally, balconies have been provided on the second and third floors along North Cache Street, North Glenwood Street, and Perry Street which further provide some relief along the street facades. Below on the following page are a few images showing the main building courtyard/recesses along Cache, Mercill, and Glenwood:

North Cache Entrance (east elevation):



Mercill Avenue Pedestrian Entrance (south elevation):



Glenwood Street Pedestrian Entrance (west elevation):



The new and expanded sidewalks on all four streets will significantly improve pedestrian safety and function along the frontages of this project compared to the existing sidewalks. It will also significantly improve the overall appearance of this block. Although the project has a total of 1,100 linear feet of street frontage, the project is significantly decreasing the amount of existing and potential curb cuts down to two on North Cache, one on North Glenwood, and none on Mercill Avenue and Perry Street. This will result in fewer conflicts between vehicles and pedestrians creating a safer experience on the sidewalks. Additionally, having the main hotel vehicular and pedestrian entrance off North Cache is practical and helps break up the massing along the 400' long stretch of property. Overall, staff acknowledges that some of the successes of the site plan are a result of vacating the alley which encouraged the applicant to design the site to address and interact more with the public realm versus no alley vacation which would likely result in long continuous unbroken street walls with private interior spaces. The proposed site plan is shown below and the three clouded areas in red are the three large courtyard recesses in the building:



Design Review Committee (DRC)

The DRC first reviewed the project on February 14, 2024, which resulted in the DRC continuing the item and directing the applicant to address numerous aspects of the Design Guidelines. Notable feedback included: improving the main entrance along North Cache as it was too large and pronounced; further studying the massing; better breaking up the roof lines; improving the pedestrian experience; addressing the Vision Statement in the Design Guidelines; improving the application of the exterior materials; and better illustrating how the paseo is inviting to the public. The DRC later reviewed the project on March 13, 2024, and recommended conceptual approval to the Town Council.

Aside from their professional critique of the project, the DRC as a whole agreed that the applicant successfully made large massing moves, such as breaking up the street wall on three streets, to help reduce the perceived bulk and scale of the building and allow for public/semi-public spaces and courtyards. The DRC acknowledged this success was in part due to the alley being vacated which encouraged the applicant to design the building with multiple large courtyards allowing the building to address/interact with the public realm versus a design with long unbroken street walls that serve private interior spaces. Although the applicant will need to continue to study various elements of the design as part of the Development Plan, the DRC felt that the “bones” are there for a successful project.

As part of the DRC’s motion at the March 13th meeting, they specifically recommended conceptual approval of the building footprint and general building massing but directed the applicant to address the following conditions as part of the Development Plan submittal:

1. The window treatment/fenestration needs to be further studied throughout the development, especially along the Cache Street frontage and vehicular courtyard. In addition, the window treatment should better relate to the associated uses and should differentiate between the lodging and condominium units.
2. The final exterior material palette and application of materials need to be further studied. Areas of the building with a change in materials should include a change in the plane to ensure that the push/pull of the massing is better articulated.
3. The efforts to break up the massing along the streets need to be carried into the courtyards to improve the pedestrian feel/experience.
4. The applicant shall continue to develop the paseo and internal courtyard to make them more inviting to the public which includes improvements to the final landscape plan. The window wells along the street frontages need to be improved so that they better relate to the pedestrian experience.
5. The southeast and northeast corners along N. Cache Street need additional study and consideration since these corners are the most prominent and will be experienced by the majority of the public.
6. The vehicular courtyard along North Cache needs to be further studied to improve the pedestrian experience and safety. It was suggested to narrow the two curb cuts each to 12’-15 wide max to shorten the crossing distance for pedestrians.
7. The North Cache Street elevation needs to be further broken up consistent with the Volume Complexity section of the Design Guidelines.
8. The “Moulton” barn along Glenwood should be further studied as some members of the DRC felt it was not authentic.

Vehicular Access

North Cache Street is owned and maintained by WYDOT and the applicant has received approval their approval to access the site from North Cache Street. WYDOT is only allowing a one-way entry/one-way exit where vehicles enter from the north curb cut and exit through the south curb cut. Staff supports this plan as it reduces the potential vehicular conflicts with other vehicles and pedestrians.

Overall, staff finds that the proposed access plan not only complies with the LDRs but is also practical in that it consolidates access points. Consolidation of access points is desirable because it reduces vehicular/pedestrian conflicts and helps with the general flow of traffic. Overall, the number of curbs along North Cache would be reduced from four to two and from four to one on along North Glenwood Street., No curb cuts are proposed along Mercill Avenue or Perry Street. For a development with 1,100 linear feet of street frontage, staff finds the

proposed access plan to be a significant improvement from current conditions. Although staff supports the access plan and number of curb cuts, staff has added a condition of approval requiring that each curb cut along North Cache Street be reduced from 24' to no wider than 12'. This will still allow access to the site but will reduce the crossing distance for pedestrians on sidewalks. In addition to consolidating access points, the proposed access plan shifts the vast majority of traffic away from North Cache onto North Glenwood Street. This is because the vehicular entrance off of North Cache is for valet parking only and has no connection to the underground parking garage which is only accessible from North Glenwood Street.

Parking

As stated above in the LDR compliance table, 220 spaces are provided to meet the 217-space requirement. For the lodging and residential uses, a total of 182 spaces have been provided which complies with the LDRs. This leaves 65 spaces (38 on-site + 27 on-street) available to serve the various other commercial uses on-site such as the retail spaces, Moulton Barn-themed restaurant, and a portion of the bar/lounge. When it comes to hotel amenity spaces such as cafes, small bar areas, conference spaces, spas, and fitness facilities, the LDRs exempt these spaces from parking requirements because they primarily serve guests who are already parked/staying at the hotel. Staff notes that this property is within the Downtown Parking District and the applicant has the option to provide zero on-site parking for commercial uses through the parking fee-in-lieu program. However, the applicant has not indicated an interest in that program at this time.

At this conceptual stage of the project, the management of parking is still being discussed and more details will be provided with the Development Plan as conditioned by staff. The applicant has indicated that hotel guest parking will be managed through valet parking but it is not decided whether the condominium owners will also use valet parking or whether they will have full access to the parking garage to park individually. Since the parking garage layout shows several rows of tandem parking, which is allowed, it will be important to know how the parking spaces will be assigned and managed for both lodging and residential. Regarding commercial parking needs, the applicant states that 37 parking spaces will be allocated in the garage to serve the retail, restaurant/bar, café, spa, etc. spaces. These spaces will most likely be for employees due to the privacy and location of the parking garage two levels underground. Ultimately, a more detailed parking management plan will be required with the submission of the Development Plan. That plan will need to address how hotel and residential parking is managed, how spaces are assigned in the garage, which spaces are designated for commercial uses, and whether those commercial spaces are strictly for employees or the general public.

Pedestrian Improvements

The CR-2 zone requires either Trees in Lawn or Trees in Grates as acceptable pedestrian frontage types. At this time staff is requiring Trees in Grates along all four streets which will consist of a 5'-wide attached buffer zone with trees and pavers and a 6'-wide detached sidewalk. With that being said, staff is considering whether Trees in Lawn is appropriate for Glenwood Street. Overall, this will be an improvement to the existing conditions which include an attached 4'-5' sidewalk around the entire block. The applicant will only be responsible for installing Trees in Grates along the areas where their property line abuts the street. Thus, the southeast corner (adjacent to 315 N. Cache St.) and northwest corner (adjacent to 390 N Glenwood St.) of this block will not receive new pedestrian improvements unless they were voluntarily provided by the applicant.

Lighting

At this time a lighting plan has not been developed since this is a conceptual level review and thus staff is unable to verify full compliance with LDR Section 5.3.1 (Exterior Lighting Standards). Lighting plans typically are not fully developed until building permit submittal. However, the applicant is aware that all future lighting will be

required to be dark sky compliant. The CR-2 zone permits a maximum of three lumens per sf of site development with a maximum of 50,000 lumens per acre of site development and a maximum of 2,000 lumens for unshielded fixtures. Based on the proposed site development of 101,960 sf, the total allowed lumens for shielded fixtures will be limited to 144,520 lumens plus 2,000 lumens for unshielded fixtures. It should be noted that exterior lighting required by the Building or Fire Code or lighting deemed necessary for public safety is exempt from the above-mentioned lumen maximum.

Landscaping

The CR-2 zoning district has a minimum required LSR of 10%, which is applied to the subject property's size of 115,118 sf, resulting in at least 11,512 sf of landscaping. Of that requirement, roughly 2,300 sf can be provided in the form of planters. At this time the applicant is providing 13,158 sf which complies with minimum requirements. In addition, a minimum of 12 plant units are required and so the applicant will need to demonstrate compliance with this number as part of the Development Plan. These 12 plant units must comply with the standard plant unit alternatives found in LDR Section 5.5.3. Staff would like to clarify that the required street trees within the Trees in Grate's pedestrian frontage are above and beyond the required 12 plant units. As conditioned in the Sketch Plan, a landscape plan prepared by a Wyoming landscape architect will need to be provided with the Development Plan that provides more details on the final landscaping, the minimum LSR, and a minimum of 12 plant units.

In addition to the number of plant units, the general purpose of the landscape standards as stated in LDR Section 5.5.1 is to *"assist in maintaining the character of the zones by providing minimum planting, buffering, and screening around and within physical development."* This means that the applicant cannot simply place all of their required plantings in their interior courtyard. Of course, some plantings can be located within the interior of the site, but the majority of the landscaping needs to serve as an exterior buffer to help soften/screen the development from the public view on each street. Staff has added a condition of approval addressing this matter.

Signage

Based on the conceptual design, the applicant plans to install a freestanding monument sign in the middle of the main vehicular entrance along North Cache. Signs are not approved during the Sketch Plan or Development Plan review but rather separately through a sign permit. Staff does note that freestanding monument signs are permitted in the CR-2 zone and must be setback 5' from the property line and be no taller than 6'.

Trash & Loading

Primary trash pick-up and general loading needs will occur in the northernmost section of the building adjacent to the 140' section of the alley that is not part of the alley vacation request. This portion of the building includes a dedicated trash room and other back-of-house delivery/storage spaces. For the convenience of hotel staff and tenants, trash chutes have been placed throughout the building on each level where staff collects trash and transfers it to the main location along the alley to pick up.

Although this portion of the alley is proposed to remain a public alley, the applicant plans to use the alley for the loading/unloading of large trucks. Alleys throughout town are used similarly and delivery trucks often temporarily block a portion of an alley during their delivery. But because this alley would no longer function like a normal thru-alley, staff has concerns that the Cache Creek Motel parking across the alley would be blocked during deliveries for significant periods of time. And since the applicant is proposing to change the nature and use of this alley to benefit their project, the applicant should provide a dedicated loading area off the alley

(parallel or angled) on their property for large trucks to reduce negative impacts on the Cache Creek Motel residents. The applicant is allowed to use the alley for access, but little to no loading in the alley should occur to reduce interference with access to the Cache Creek Motel. Staff has added a condition requiring the applicant to provide a loading area within their property boundary that allows large trucks to load/unload without needing to park in the alley.

Snow Storage

The applicant has not yet indicated locations of snow storage that comply with the minimum LDR requirement of 2.5% of impervious surfaces. Being that this is at Sketch Plan, snow storage a final snow storage plan is not required. However, staff has added a condition of approval requiring that as part of the Development Plan submittal, the applicant shall demonstrate adequate snow storage consistent with the LDRs.

Bicycle Parking

The applicant has indicated the location of some bicycle parking in the lowest basement level but the number of bike parking spaces is unknown. Staff notes that this Sketch Plan was deemed sufficient before the adoption of the new bike parking standards and is vested under the previous bike parking standards. Thus, the applicable LDR standard requires 1 bike rack per 10 parking spaces and so the applicant will need to provide a minimum of 22 bike parking spaces. Staff is requiring that the applicant increase the number of short-term bike parking to serve those using the courtyards. This requirement is directly tied to the alley vacation request, which among other goals seeks to provide functional and welcoming pedestrian spaces for the public and users of the hotel. Providing ample short-term bike parking near the paseo entrances along Mercill and Glenwood is consistent with the goals of creating a functional space that would be accessible to the public.

Affordable & Workforce Housing

Sec. 6.3.2.A.1 in the LDRs gives an affordable housing “credit” for any uses that existed on the site on December 19, 1995, or that were established after this date to the present. Thus, in the applicant’s case, because all of the existing uses were in existence in 1995, all of the uses qualify for the housing mitigation credit. In practical terms, this means that these uses qualify for a credit even though they have never provided housing mitigation because they were established before the Town adopted housing mitigation requirements. In terms of calculating the amount of the credit, the credit is given to whichever use generates the highest mitigation requirement since 1995. This credit(s) can be used to offset the housing requirement of new development or redevelopment on the same site. Based on this methodology, the project has a housing credit of 10.188 units compared to a housing requirement of 19.72 units, leaving a final requirement of 9.539 affordable units.

Mitigation Requirement (Base 0.8 FAR)	
Proposed uses:	
• 171 lodging units = 17.467 mitigation units required	
• Retail (2,497 sf) = 0.539 mitigation units required	
• Restaurant (2,043 sf) = 1.223 mitigation units required	
• Bar/Lounge (816 sf) = 0.489 mitigation units required	
• Residential (2:1 Bonus) = no requirement	
Total Requirement: 19.72 mitigation units	

Credit for existing/historical uses:

- 25 lodging units = 2.554 mitigation units required
- Retail (2,500 sf) = 0.539 mitigation units required
- Office (21,094 sf) = 5.204 mitigation units required
- 2 Detached single-family homes (3,649 sf total) = 0.083 mitigation units required
- Heavy Service/Retail (3,000 sf) = 0.369 mitigation units required
- Tour Operator/Outfitter (1,325 sf) = 1.440 mitigation units required

Total Credits: 10.188 mitigation unit credits

Complies: 9.539 units of mitigation required = 9 affordable units + fee of \$143,863.27.

As proposed, the applicant plans to meet their affordable housing requirement by deed restricting 10 market units (9 as affordable + 1 as workforce) off-site at The Loop project. The Loop has 194 total units, 112 of which are market, 81 are workforce and one is affordable. Thus the 112 market units are available to be used to satisfy an affordable housing requirement. According to LDR Section 6.3.5.B, affordable housing requirements can be satisfied by building units off-site and deed-restricting them. Thus staff finds the applicant's proposed method of providing affordable housing to be consistent with the LDRs. The applicant would be required to provide the following types of units and affordability at The Loop according to LDR Section 6.3.4:

- Two 1-bedroom units @ less than 50% AMI
- Two 1-bedroom units @ 80-120% AMI
- One 2-bedroom unit @ less than 50% AMI
- One 2-bedroom unit @ 50-80% AMI
- Three 2-bedroom units @ 80-120% AMI
- One 3-bedroom unit @ Workforce

In addition to the proposed off-site affordable housing, the applicant is also proposing to put their "workforce" portion of the 2:1 Bonus off-site at The Loop. Since the applicant is proposing 75,008 sf of on-site "market" floor area as part of the 2:1 Bonus at the North Cache site, at least 37,504 sf of workforce housing must be provided. The applicant states they will provide 38 workforce units at The Loop totaling 37,723 sf. Currently, the LDRs are silent on where the workforce portion of the 2:1 Bonus can be located. Regardless, the applicant can request to put the workforce portion of the bonus off-site knowing that the Town Council has final discretion to approve or deny. Below is a breakdown of the types, sizes, and quantity of workforce units to be provided off-site at The Loop:

Off-site Workforce Housing at The Loop			
Unit Type	Quantity	Unit Size	Total Square Footage
Studio	1	391 sf	391 sf
1 Bedroom	10	735 sf	7,350 sf
2 Bedroom	13	1,084 sf	14,092 sf
3 Bedroom	14	1,135 sf	15,890 sf
TOTAL	38	-	37,723 sf

Staff is supportive of the applicant's request to put their workforce portion of the 2:1 Bonus off-site primarily because 1) the LDRs do not prohibit it, and 2) it is consistent with how required affordable housing is treated,

which can be provided off-site according to LDR Section 6.3.5.B. When the 2:1 Bonus was created, the majority of the discussion generally revolved around identifying which zones could use the bonus, defining what the ratio should be (i.e., 1:1, 2:1, 3:1), and determining the type of restriction. Although no rule or standard was written down regarding “where” the workforce housing should be located, the general intention was that both market and workforce units would be built on the same development site. However, because the LDRs are silent on this topic, staff’s interpretation is that off-site locations could be allowed upon request and approval of the Town Council. Aside from treating affordable and 2:1 workforce housing the same in terms of where it can be built, the proposed workforce housing will be located within the CR-3 zone which also allows the 2:1 Bonus. Had the request been to locate the workforce housing in a zone that does not allow the 2:1 Bonus, staff would not have supported the request. Staff also supports the request because putting the workforce housing off-site generates more workforce housing compared to if it was provided on-site. Staff also acknowledges that putting the workforce housing off-site generates more market housing at the subject property. If the Town Council denies the request to put workforce housing off-site at The Loop, the applicant would need to revise their housing mitigation plan which would result in a reduction in the amount of market housing from 75,088 sf to 50,004 sf and a reduction in the amount of workforce housing from 37,504 sf to 25,002 sf.

Finally, as part of the alley vacation request, the applicant has offered to pay the Town’s portion of constructing the turn lane for The Loop (roughly \$500,000.00) and offered to further deed restrict 30 workforce-restricted units to affordable units at The Loop. The details on unit type, size, and level of affordability have been provided and are in the applicant’s submittal. Although staff is not making a formal recommendation on the alley vacation request, the table below has been provided to help lay out the unit breakdown at The Loop should the Town approve the Sketch Plan with or without the alley vacation.

Unit Type	The Loop (current)	The Loop (proposed w/out alley vacation)	The Loop (proposed w/ alley vacation)
Market units	112	64	64
Workforce units	81	120	90
Affordable units	1	10	40
TOTAL UNITS	194	194	194
TOTAL % RESTRICTED	42%	67%	67%

Public Comment.

Staff has received public comments on this item which are attached to this report.

Comprehensive Plan & Priority Alignment.

Sketch Plan. All Sketch Plan proposals may be approved only if all of the following findings are made:

1. *The proposed project is consistent with the desired future character described for the site in the Jackson/Teton County Comprehensive Plan.*

Not applicable. This finding is not applicable according to the Wyoming Supreme Court.

2. *The proposed project achieves the standards and objective of the Natural Resource Overlay (NRO) and Scenic Resources Overlay (SRO), if applicable.*

Not applicable. The property is not located within the Natural Resource Overlay (NRO) or Scenic Resources Overlay (SRO).

3. *The proposed project does not have a have a significant impact on public facilities and services, including transportation, portable water and wastewater facilities, parks, schools, police, fire, and EMS facilities.*

Complies. As conditioned, and per the departmental reviews provided in this staff report, staff finds that the proposed project will not have significant impacts on public facilities and infrastructure. The portions of the alley proposed to be vacated are adjacent only to the applicant's development and thus will not hinder alley access/utilities to any other property. The alley portion adjacent to the Cache Creek Motel will remain a public alley and will continue to provide them with vehicular access and utilities.

4. *The proposed project complies with all relevant standards of these LDRs and other Town Ordinances as can be determined by the level of detail of a sketch plan.*

Complies. As conditioned, staff finds that the application meets all standards of the LDRs and other Town Ordinances.

5. *The proposed project is in substantial conformance with all standards or conditions of any prior applicable permits or approvals.*

Not applicable. There are no other prior applicable permits or approvals.

Fiscal Impact.

There are no direct fiscal impacts to the Town for the proposed development. If the alley, or a portion of alley, is vacated, the Town would be relieved of its maintenance responsibilities (i.e. snow plowing, utility maintenance, etc.). Also, if the Town Council approves the alley vacation and agrees to the applicant's offer to pay the Town's portion of the left turn lane at The Loop, it would save the Town roughly \$500,000.00.

Staff Impact.

The amount of staff time to review, meet with the applicant, research, and write this report including future work to send final letters is roughly 100-120 hours.

Attachments or Links.

Applicant Submittal
Department Reviews
Public Comment

Suggested Motion.

I move to recommend **approval** of Sketch Plan P24-002 for a new three-story, 290,000 sf mixed-use hotel and residential condominium building at the subject property based upon the findings presented in the staff report, the departmental reviews, and subject to the conditions of approval recommended in this staff report dated April 3, 2024.



PLANNING PERMIT APPLICATION
Planning & Building Department

150 E Pearl Ave. | ph: (307) 733-0440
P.O. Box 1687 | www.townofjackson.com
Jackson, WY 83001

For Office Use Only

Fees Paid _____ Date & Time Received _____
Application #s _____

Please note: Applications received after 3 PM will be processed the next business day.

PROJECT.

Name/Description: North Cache Hotel/Multi-Use Development
Physical Address: 335 N Cache
Lot, Subdivision: _____ PIDN: _____

PROPERTY OWNER.

Name: Mogul Hospitality Partners - Jackson, LLC Phone: 435-709-1004
Mailing Address: PO Box 998, Midway, UT ZIP: 84049
E-mail: bradw@mogulcapital.com

APPLICANT/AGENT.

Name: Mogul Hospitality Partners - Jackson, LLC Phone: 435-709-1004
Mailing Address: PO Box 998, Midway, UT ZIP: 84049
E-mail: bradw@mogulcapital.com

DESIGNATED PRIMARY CONTACT.

☒ Property Owner ☐ Applicant/Agent

TYPE OF APPLICATION. Please check all that apply; review the type of application at www.townofjackson/200/Planning

Use Permit

☐ Basic Use
☐ Conditional Use
☐ Special Use

Relief from the LDRs

☐ Administrative Adjustment
☐ Variance
☐ Beneficial Use Determination
☐ Appeal of an Admin. Decision

Physical Development

☒ Sketch Plan
☐ Development Plan
☐ Design Review

Subdivision/Development Option

☐ Subdivision Plat
☐ Boundary Adjustment (replat)
☐ Boundary Adjustment (no plat)
☐ Development Option Plan

Interpretations

☐ Formal Interpretation
☐ Zoning Compliance Verification

Amendments to the LDRs

☐ LDR Text Amendment
☐ Map Amendment

Miscellaneous

☐ Other: _____
☐ Environmental Analysis

PRE-SUBMITTAL STEPS. To see if pre-submittal steps apply to you, go to www.townofjackson.com/200/Planning and select the relevant application type for requirements. Please submit all required pre-submittal steps with application.

Pre-application Conference #: P23-156 Environmental Analysis #: NAP
Original Permit #: _____ Date of Neighborhood Meeting: 11/9/23

SUBMITTAL REQUIREMENTS. Please ensure all submittal requirements are included. The Planning Department will not hold or process incomplete applications. Partial or incomplete applications will be returned to the applicant. Go to www.townofjackson.com/200/Planning and select the relevant application type for submittal requirements.

Have you attached the following?

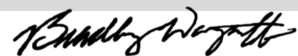
X **Application Fee.** Fees are cumulative. Go to www.townofjackson.com/200/Planning and select the relevant application type for the fees.

_____ **Notarized Letter of Authorization.** A notarized letter of consent from the landowner is required if the applicant is not the owner, or if an agent is applying on behalf of the landowner. Please see the Letter of Authorization template at <http://www.townofjackson.com/DocumentCenter/View/845/LetterOfAuthorization-PDF>.

X **Response to Submittal Requirements.** The submittal requirements can be found on the TOJ website for the specific application. If a pre-application conference is required, the submittal requirements will be provided to applicant at the conference. The submittal requirements are at www.townofjackson.com/200/Planning under the relevant application type.

Note: Information provided by the applicant or other review agencies during the planning process may identify other requirements that were not evident at the time of application submittal or a Pre-Application Conference, if held. Staff may request additional materials during review as needed to determine compliance with the LDRs.

Under penalty of perjury, I hereby certify that I have read this application and associated checklists and state that, to the best of my knowledge, all information submitted in this request is true and correct. I agree to comply with all county and state laws relating to the subject matter of this application, and hereby authorize representatives of Teton County to enter upon the above-mentioned property during normal business hours, after making a reasonable effort to contact the owner/applicant prior to entering.



Signature of Property Owner or Authorized Applicant/Agent

Brad Wagstaff

Name Printed

3/21/24

Date

CEO

Title



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1. Cover Letter
2. Concept Package and Site Plans
3. Per Floor SF Breakdown
4. LDR Compliance Checklist
5. Responses to Pre-Application Conference Comments
6. Neighborhood Meeting Summary (Notes & List of Attendees)
7. Parking Summary & Breakdown
8. Housing Mitigation Plan
9. Housing Mitigation Checklist
10. Housing Mitigation Calculator
11. Construction Management Plan
12. Utility Re-Routing Proposal



March 21, 2024

Paul Anthony
Planning Director, Jackson Planning Department
P.O. Box 1687
Jackson, WY 83001

RE: Sketch Plan Application: N Cache Lodging and Residential Development

Dear Paul,

Please accept this Sketch Plan Application for 375 – 325 North Cache Street, 45 & 65 Mercill Avenue and 330 – 370 North Glenwood Street (the “Project”). We have completed the required steps to proceed with our formal Sketch Plan Application and are looking forward to proceeding in the process. Mogul Capital has worked through the Sketch Plan Pre-Application process and held a productive conversation with the Town Staff and related department representatives. Mogul has addressed the comments to the pre-application package in the materials included herein. In addition, Mogul Capital held the required neighborhood meeting and has included the sign in sheet and notes from the discussion herein.

As previously discussed with the Town Staff and Town Council, the concept attached includes a portion of the alley integrated into the Project and converted into a public amenity for both guests at the Project and the public. This option optimizes the site and allows for street and retail activation by providing a pedestrian paseo through the Project creating an inviting and usable public space. Additionally, this option retains the northern portion of the alley for truck and loading access for the Project and neighboring property. It also segments the building, reducing massing and increasing pedestrian access to an area which includes a modern take on an iconic Jackson barn for meeting and conference space. Given the feedback from public works for us, as the developer, to vacate the entire alley, we are interested in engaging in further discussions with the Town should the Council desire to pursue this option. Mogul Capital submitted a formal Alley Vacation Submission to the Town Staff in September 2023, and addressed all items requested in the Town’s Alley Vacation Checklist. As we discussed previously, we are expecting the Alley Vacation submittal to run parallel with this Sketch Plan submission.

Located on the North end of town, our gateway project seeks to benefit both residents and tourists alike by providing residential housing and lodging to the Town of Jackson. By developing this project, we will improve a block with vacant parcels, aged buildings and infrastructure by building an elegantly designed lodging and housing project. In addition, this project is

conveniently located at the north end of town, providing quick access into Yellowstone and Grand Teton National Park, while also being a short walk to Town Square.

Attached is our Sketch Plan Application request form, responses to the Town's comments to the Sketch Plan Pre-Application, as well as the site plan and respective design package. We look forward to moving the application forward and discussing with the Town Council.

Sincerely,
Brad Wagstaff
Chief Executive Officer



JACKSON HOTEL
JACKSON, WY

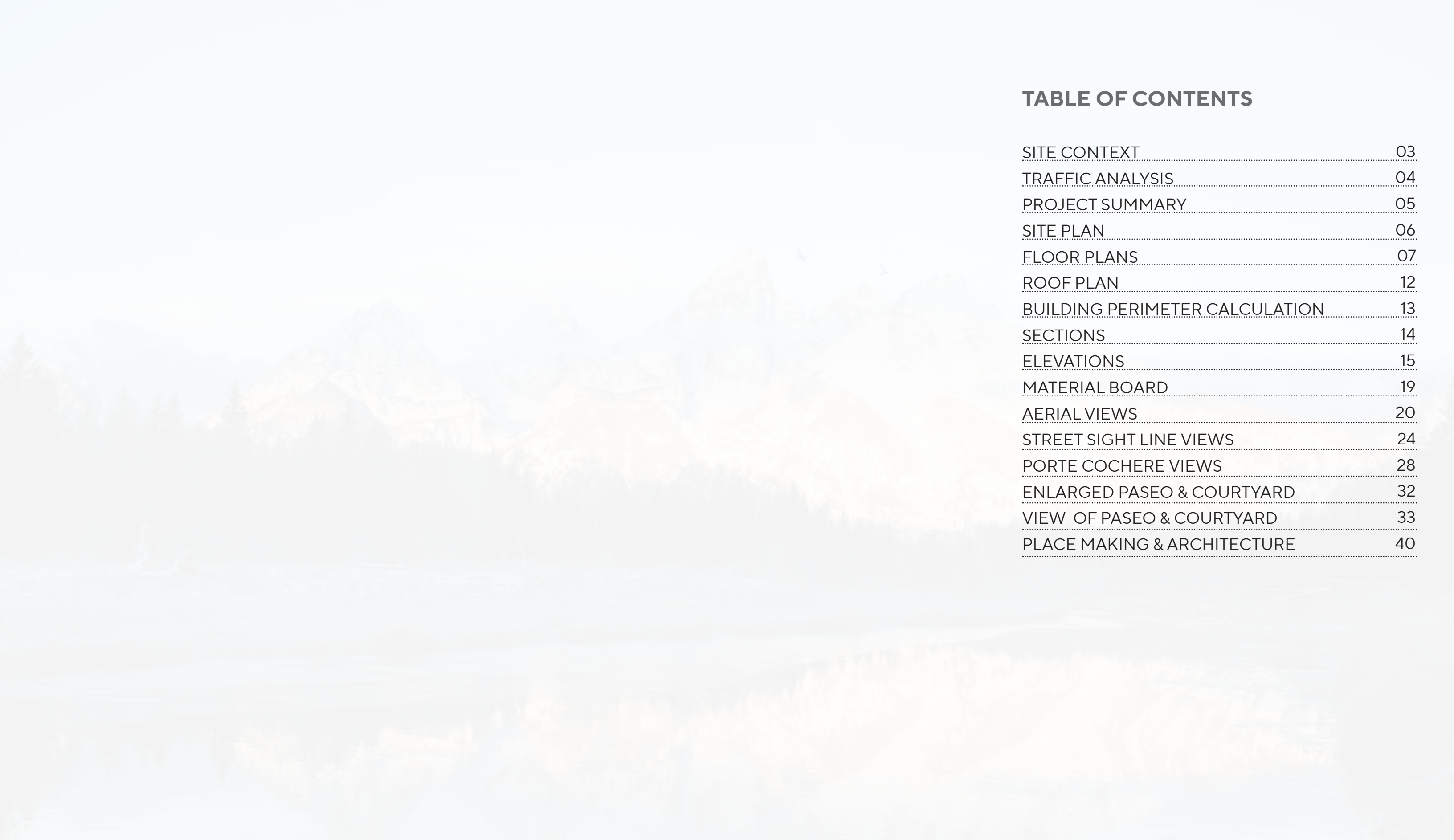


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LEGEND

-  Bike Route

 Trails

 Pathway

 Public Facility

 Roads

 Sponsors

 Park
-  Hiking/Biking Trailhead

 Restrooms

 Parking

 Post Office

 Visitor Center

 St. John's Hospital

 School

 Bike Repair Station

 Grand Loop - 35 Miles
-  1 JH/Greater Yellowstone Visitor's Center

 2 Bridger-Teton National Forest

 3 Rec Center

 4 Jackson Hole Community Pathways

 5 Friends of Pathways

 6 Teton County Library
-  START BUS

 START Bike

 Download App:

 BCycle



PROJECT DATA

SITE AREA: 113,000 (2.59 ACRES)
ALLOWABLE COMMERCIAL FAR: 90,400 SF
TOTAL COMMERCIAL FAR : 89,896 SF

SCALE OF DEVELOPMENT

ALLOWED NIGHTLY RENTAL FAR 0.8 :	90,400 SF
TOTAL 2:1 BONUS HOUSING	110,745 SF
BASEMENT EXEMPT AREA:	
OCCUPIED AREA	89,806 SF
BASEMENT PARKING	75,533 SF
TOTAL OCCUPIED AREA (EXCLUDES STRUCTURED PARKING):	290,447 SF
TOTAL BUILDING AREA INCLUDING PARKING:	365,980 SF
TOTAL NIGHTLY RENTABLE SF	180,206 SF
(INCLUDES 90,400 ALLOWED + 89,806EXEMPT)	

COMMERCIAL FAR

EXEMPT	
LEVELS B1 AND B2	89,806
PARKING	75,533
RESIDENTIAL	75,088
RESIDENTIAL CIR.& FACILITIES	23,017
SHARED USES (1/2 HOTEL+1/2 RESIDENTIAL)	12,640
TOTAL EXEMPT	276,084

COMMERCIAL FAR	
HOTEL BASE FAR	65,925
HOTEL -CIR. & FACILITIES	11,331
SHARED USES (1/2 HOTEL+1/2 RESIDENTIAL)	12,640
TOTAL COMMERCIAL FAR	89,896

TOTAL BUILDING SQUARE FOOTAGE 365,980

BUILDING PROGRAM

	QTY	AREA
RESIDENTIAL	36 UNITS	
COMMERCIAL		
HOTEL	171 KEYS	
SPA		4,517 SF
FITNESS		2,127 SF
RETAIL		2,497 SF
MEETING ROOMS		6,102 SF
BUSINESS CENTER		337 SF
HOTEL BAR & LOUNGE		2,400 SF
CAFÉ		1,500 SF
SIGNATURE RESTAURANT		2,000 SF

PARKING

	# OF UNITS	PARKING REQUIRED
PARKING REQUIRED		
RESIDENTIAL	36 UNITS	54 1.5 pkg ratio
HOTEL	171 KEYS	129 .75 pkg ratio
COMMERCIAL		
SIGNATURE RESTAURANT	2,000 SF	28 1/73 SF
HOTEL BAR & LOUNGE	2400 SF	20 1/40 SF / 3
CAFÉ	1,500 SF	7 1/73 SF / 3
RETAIL	2,497 SF	9 3.37 per 1,000sf
PARKING PROVIDED		
LEVEL B2 BASEMENT PARKING		213
LEVEL B2 ADA PARKING		7
STREET PARKING CREDIT		27
TOTAL PARKING REQUIRED		247
TOTAL PARKING PROVIDED		247
EV PARKING REQUIRED 87 Total (13 installed & 74 capable)		
EV PARKING PROVIDED 87 Total (13 installed & 74 capable)		
BICYCLE PARKING REQUIRED 18 1/10 non resi parking		
BICYCLE PARKING PROVIDED		18

MERCILL AVE

GLENWOOD ST.

PERRY STREET

NORTH CACHE STREET

- EXEMPT
- PARKING
- SHARED (1/2 RESIDENTIAL, 1/2 HOTEL BASE FAR)
- RESIDENTIAL
- HOTEL

2 --
A-1.8

1 --
A-1.8

3 --
A-1.8



JACKSON HOTEL
JACKSON, WY

FLOOR PLAN - LEVEL B1



TREES IN
GRATES ON
ALL STREETS-

MERCILL AVE



MOGUL CAPITAL

JACKSON HOTEL
JACKSON, WY

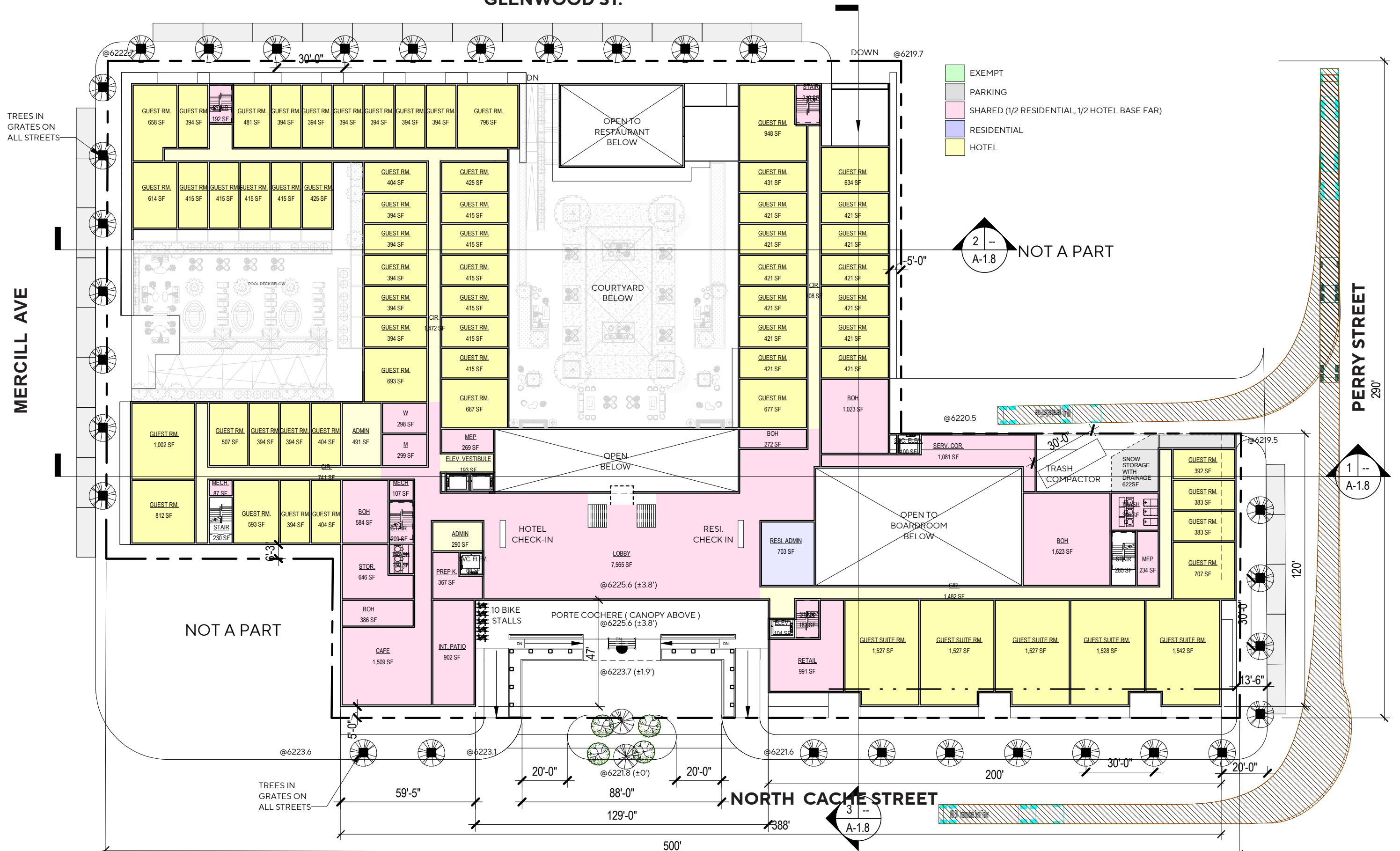
FLOOR PLAN - LEVEL 1



Architecture.
Design.
Relationships.

Scale
Job No.
Date

023-0270
024-03-22

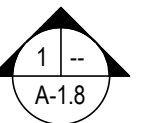
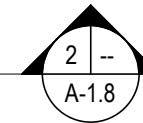


171' + 72' = 243'

243' X 0.4 = 97.2 FEET REQUIRED 10' SETBACK
ALONG WEST FACADE FRONTAGE

101' PROVIDED- COMPLIES

- EXEMPT
- PARKING
- SHARED (1/2 RESIDENTIAL, 1/2 HOTEL BASE FAR)
- RESIDENTIAL
- HOTEL



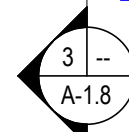
120' FRONTAGE
120 X 0.4 = 48' FEET REQUIRED
10' SETBACK ALONG W
FACADE FRONTAGE

60'8" PROVIDED- COMPLIES

OVERHANG
MAX. 3'-0"

259' FRONTAGE
259 X 0.4 = 103.5 FEET REQUIRED 10'
SETBACK ALONG W FACADE FRONTAGE

182' PROVIDED- COMPLIES

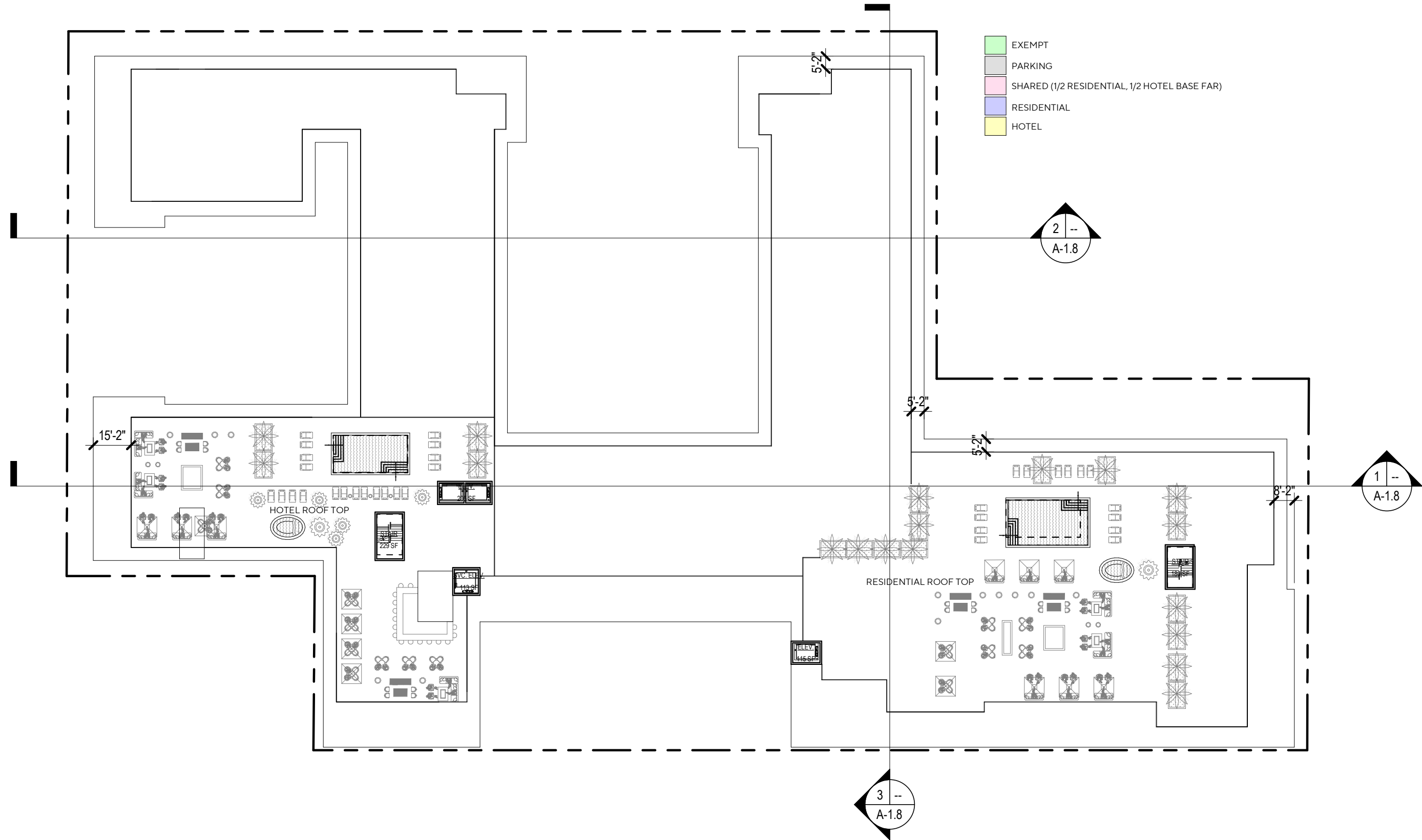


FLOOR PLAN - LEVEL 3



JACKSON HOTEL
JACKSON, WY





FINISH GRADE
@ 6222.7 ELEV
2.9

FINISH GRADE
@ 6221.6 ELEV
4.0

FINISH GRADE
@ 6219.7 ELEV
5.9

FINISH GRADE
@ 6222.9 ELEV
2.7

COURTYARD
@ 6215.6

5.1
FINISH GRADE
@ 6220.5 ELEV

FINISH GRADE
@ 6219.5 ELEV
6.1

FINISH GRADE
@ 6223.9 ELEV
1.7

FINISH GRADE
@ 6223.7 ELEV
1.9

FINISH GRADE
@ 6223.6 ELEV
2.0

FINISH GRADE
@ 6223.1 ELEV
2.5

FINISH GRADE
@ 6221.8 ELEV
3.8

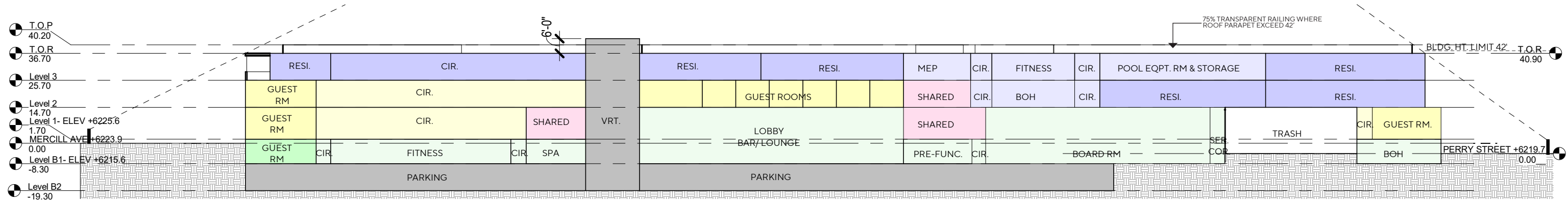
FINISH GRADE
@ 6221.6 ELEV
4.0

FINISH GRADE
@ 6220.6 ELEV
5.0

BASEMENT BUILDING PERIMETER CALCULATION

OVERALL BUILDING PERIMETER	1,318 FT	
BUILDING PERIMETER AT 4 FT. OR LESS ABOVE FINISH GRADE	669 FT	51%
BUILDING PERIMETER AT 4 FT. TO 10 FT. ABOVE FINISH GRADE	649 FT	49%
HIGHEST FINISH GRADE	6223.9 FFE	
LOWEST FINISH GRADE	6219.5 FFE	
AVERAGE FINISH GRADE	6221.7 FFE	

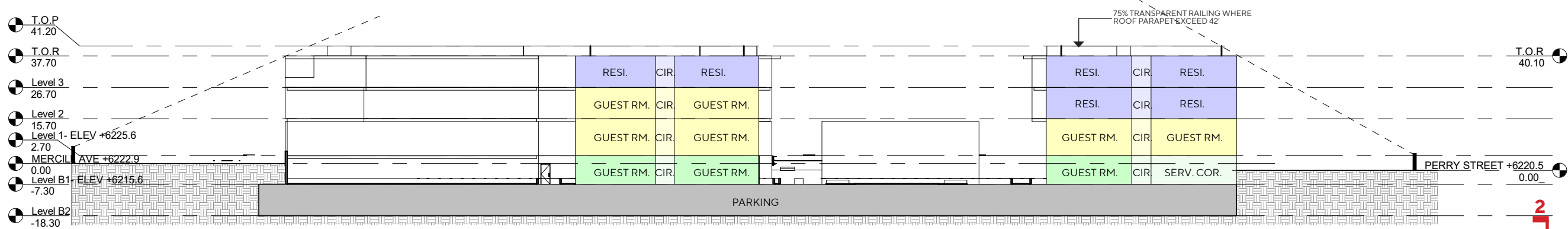
B1 FF
@ 6215.6
L1 FF
@ 6225.6



SECTION 1

Scale:
1" = 40'-0"

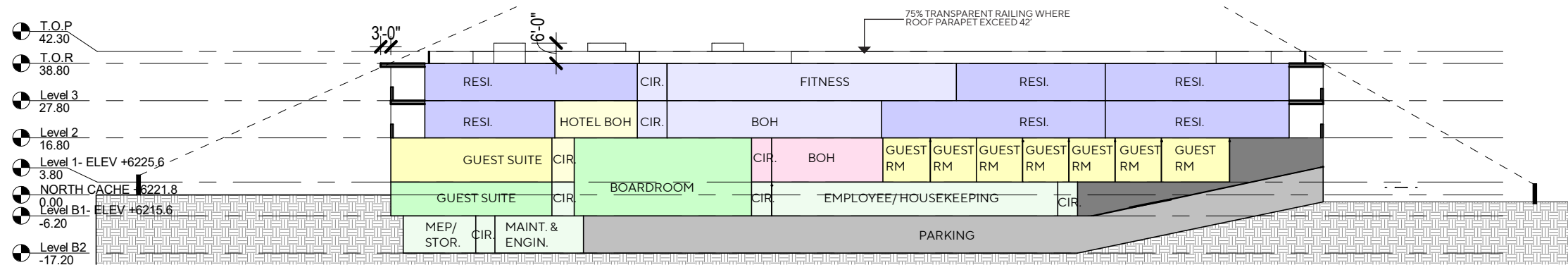
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SECTION 2

Scale:
1" = 40'-0"

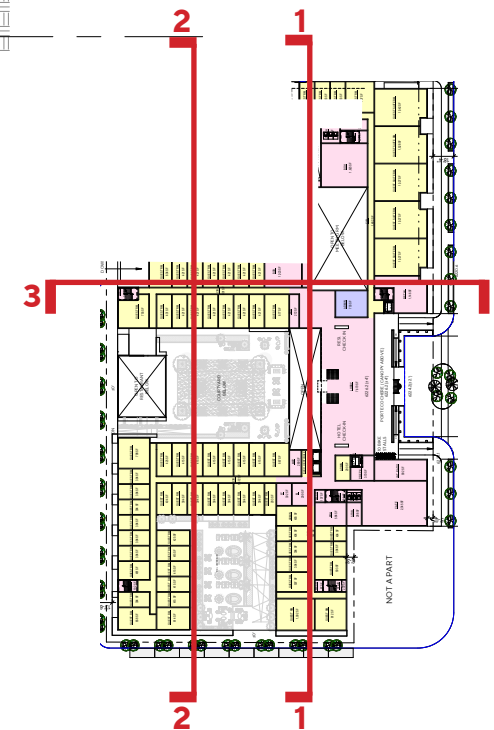
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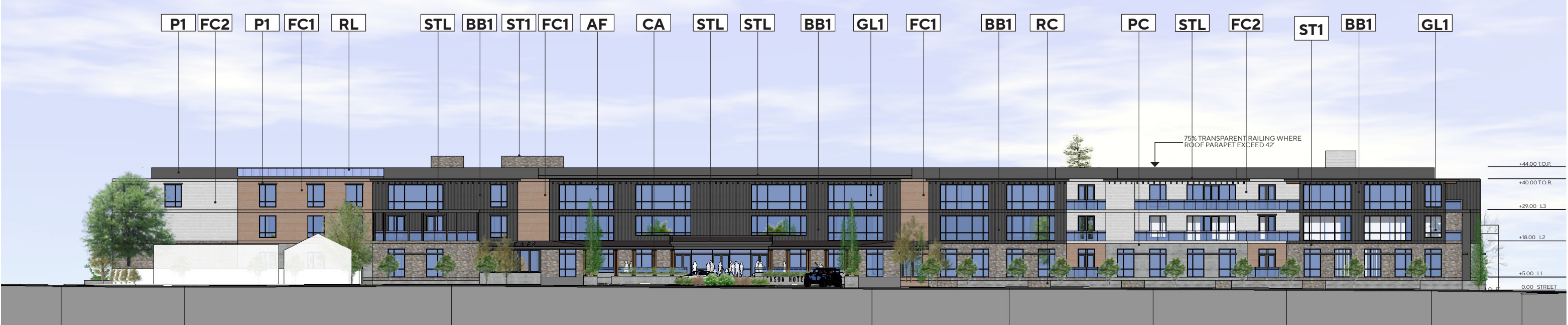


SECTION 3

Scale:
1" = 40'-0"

3





CACHE STREET FACADE ELEVATION

MATERIAL FINISHES:

ST1



LOCAL STONE VENEER (DRYSTACK)

BB1



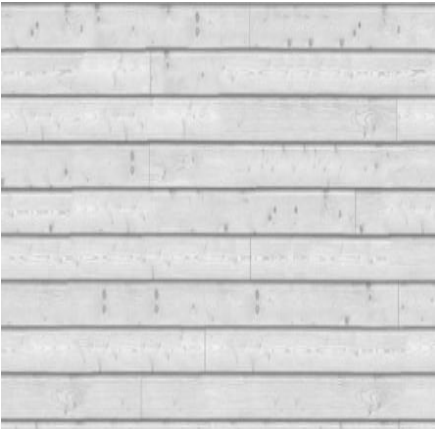
BOARD & BATTEN RUSTIC CHARCOAL GRAY FINISH

FC1



RUSTIC FAUX WOOD SIDING FIBER CEMENT BOARDS (RUSTIC /WEATHERED FINISH)

FC2



RUSTIC FAUX WOOD SIDING FIBER CEMENT BOARDS (RUSTIC GRAYISH WHITE)

PC



PRE FORM CONCRETE (RUSTIC GRAY FINISH)

CA



METAL CANOPY ASSEMBLY PAINT COLOR TO MATCH P1

C1



RUSTIC WOOD COLUMN WITH CARBONIZED STEEL COLUMNS

RL



INDUSTRIAL STEEL / GLASS RAILING @ POOL AREAS

AF



ANODIZED ALUMINUM STOREFRONT FRAMES DARK BRONZE

P1



ROOF PARAPET PAINT COLOR TO MATCH DARK ROOM SW 7083

GL1



DOUBLE GLAZED LOW-E WINDOW GLAZING SYSTEM

STL



STEEL CHANNEL- PAINT COLOR TO MATCH P1



GLENWOOD ST. FACADE ELEVATION

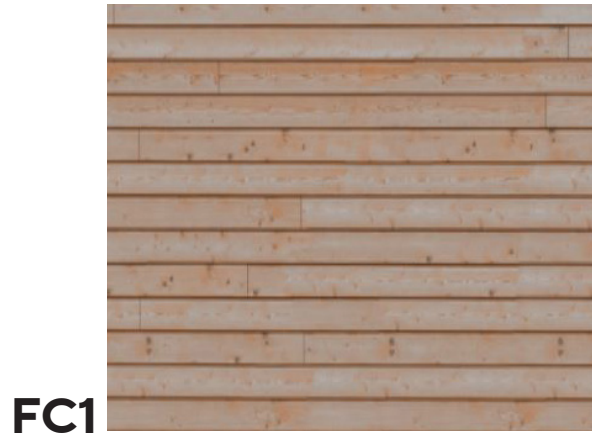
MATERIAL FINISHES:



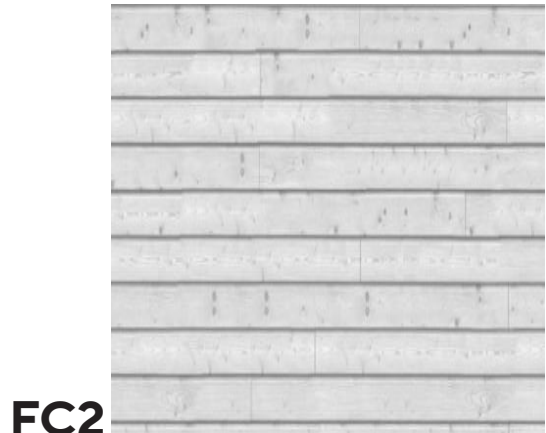
ST1
LOCAL STONE VENEER
(DRYSTACK)



BB1
BOARD & BATTEN
RUSTIC CHARCOAL GRAY
FINISH



FC1
RUSTIC FAUX WOOD SIDING
FIBER CEMENT BOARDS
(RUSTIC /WEATHERED FINISH)



FC2
RUSTIC FAUX WOOD SIDING
FIBER CEMENT BOARDS
(RUSTIC GRAYISH WHITE)



PC
PRE FORM CONCRETE
(RUSTIC GRAY FINISH)



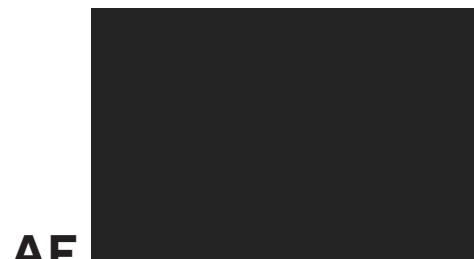
CA
METAL CANOPY ASSEMBLY
PAINT COLOR TO MATCH P1



C1
RUSTIC WOOD COLUMN
WITH CARBONIZED STEEL
COLUMNS



RL
INDUSTRIAL STEEL / GLASS
RAILING @ POOL AREAS



AF
ANODIZED ALUMINUM
STOREFRONT FRAMES
DARK BRONZE



P1
ROOF PARAPET PAINT COLOR
TO MATCH DARK ROOM
SW 7083



GL1
DOUBLE GLAZED LOW-E
WINDOW GLAZING SYSTEM



STL
STEEL CHANNEL-
PAINT COLOR TO
MATCH P1



MERCILL AVENUE FACADE ELEVATION

MATERIAL FINISHES:

ST1

LOCAL STONE VENEER (DRYSTACK)

BB1

BOARD & BATTEN RUSTIC CHARCOAL GRAY FINISH

FC1

RUSTIC FAUX WOOD SIDING FIBER CEMENT BOARDS (RUSTIC /WEATHERED FINISH)

FC2

RUSTIC FAUX WOOD SIDING FIBER CEMENT BOARDS (RUSTIC GRAYISH WHITE)

PC

PRE FORM CONCRETE (RUSTIC GRAY FINISH)

CA

METAL CANOPY ASSEMBLY PAINT COLOR TO MATCH P1

C1

RUSTIC WOOD COLUMN WITH CARBONIZED STEEL COLUMNS

RL

INDUSTRIAL STEEL / GLASS RAILING @ POOL AREAS

AF

ANODIZED ALUMINUM STOREFRONT FRAMES DARK BRONZE

P1

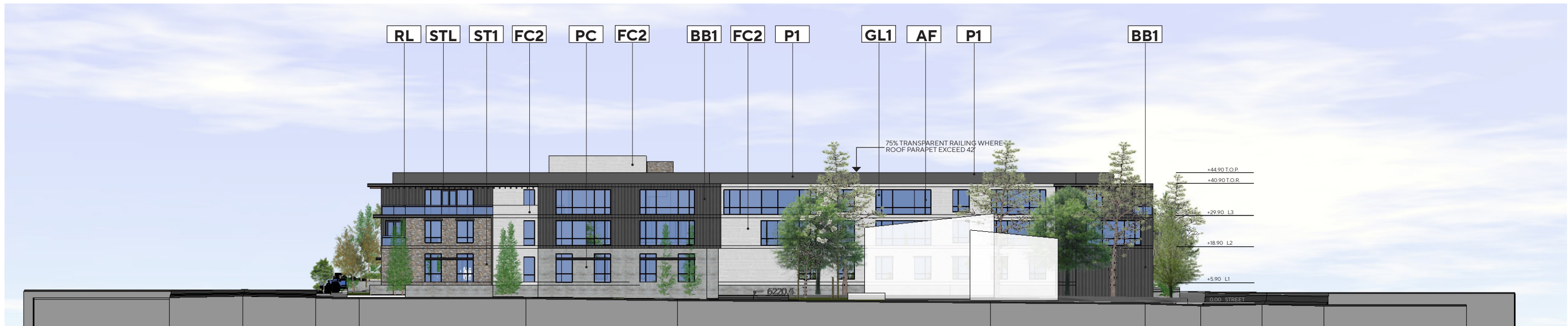
ROOF PARAPET PAINT COLOR TO MATCH DARK ROOM SW 7083

GL1

DOUBLE GLAZED LOW-E WINDOW GLAZING SYSTEM

STL

STEEL CHANNEL- PAINT COLOR TO MATCH P1



PERRY STREET FACADE ELEVATION

MATERIAL FINISHES:

ST1
LOCAL STONE VENEER
(DRYSTACK)

BB1
BOARD & BATTEN
RUSTIC CHARCOAL GRAY
FINISH

FC1
RUSTIC FAUX WOOD SIDING
FIBER CEMENT BOARDS
(RUSTIC /WEATHERED FINISH)

FC2
RUSTIC FAUX WOOD SIDING
FIBER CEMENT BOARDS
(RUSTIC GRAYISH WHITE)

PC
PRE FORM CONCRETE
(RUSTIC GRAY FINISH)

CA
METAL CANOPY ASSEMBLY
PAINT COLOR TO MATCH P1

C1
RUSTIC WOOD COLUMN
WITH CARBONIZED STEEL
COLUMNS

RL
INDUSTRIAL STEEL / GLASS
RAILING @ POOL AREAS

AF
ANODIZED ALUMINUM
STOREFRONT FRAMES
DARK BRONZE

P1
ROOF PARAPET PAINT COLOR
TO MATCH DARK ROOM
SW 7083

GL1
DOUBLE GLAZED LOW-E
WINDOW GLAZING SYSTEM

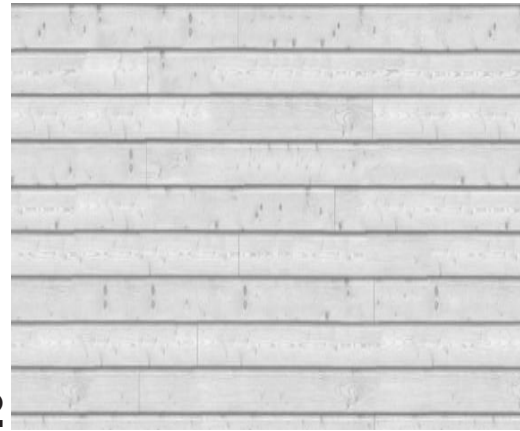
STL
STEEL CHANNEL-
PAINT COLOR TO
MATCH P1

ST1



LOCAL STONE VENEER
(DRystack)

FC2



RUSTIC FAUX WOOD SIDING
FIBER CEMENT BOARDS
(RUSTIC GRAYISH WHITE)

CA



METAL CANOPY ASSEMBLY
PAINT COLOR TO MATCH P1

C1



RUSTIC WOOD COLUMN WITH
CARBONIZED STEEL COLUMNS

BB1



BOARD & BATTEN
RUSTIC CHARCOAL GRAY FINISH

PC



PRE FORM CONCRETE
(RUSTIC GRAY FINISH)

RL



INDUSTRIAL STEEL / GLASS
RAILING @ POOL AREAS

GL1



DOUBLE GLAZED LOW-E
WINDOW GLAZING SYSTEM

FC1



RUSTIC FAUX WOOD SIDING
FIBER CEMENT BOARDS
(RUSTIC /WEATHERED FINISH)

AF



ANODIZED ALUMINUM
STOREFRONT FRAMES
DARK BRONZE

P1



ROOF PARAPET
PAINT COLOR TO MATCH
DARK ROOM
SW 7083

STL



STEEL CHANNEL
PAINT COLOR TO MATCH
P1



VIEW FROM CACHE STREET



JACKSON HOTEL
JACKSON, WY

AERIAL VIEW





VIEW FROM MERCILL AVENUE



VIEW FROM GLENWOOD STREET



VIEW FROM PERRY STREET



VIEW FROM CACHE ST. & MERCIL L AVENUE



VIEW FROM CACHE ST. & MERCIL L AVENUE



VIEW FROM CACHE ST. & PERRY STREET



VIEW FROM GLENWOOD ST. & MERCILL AVENUE









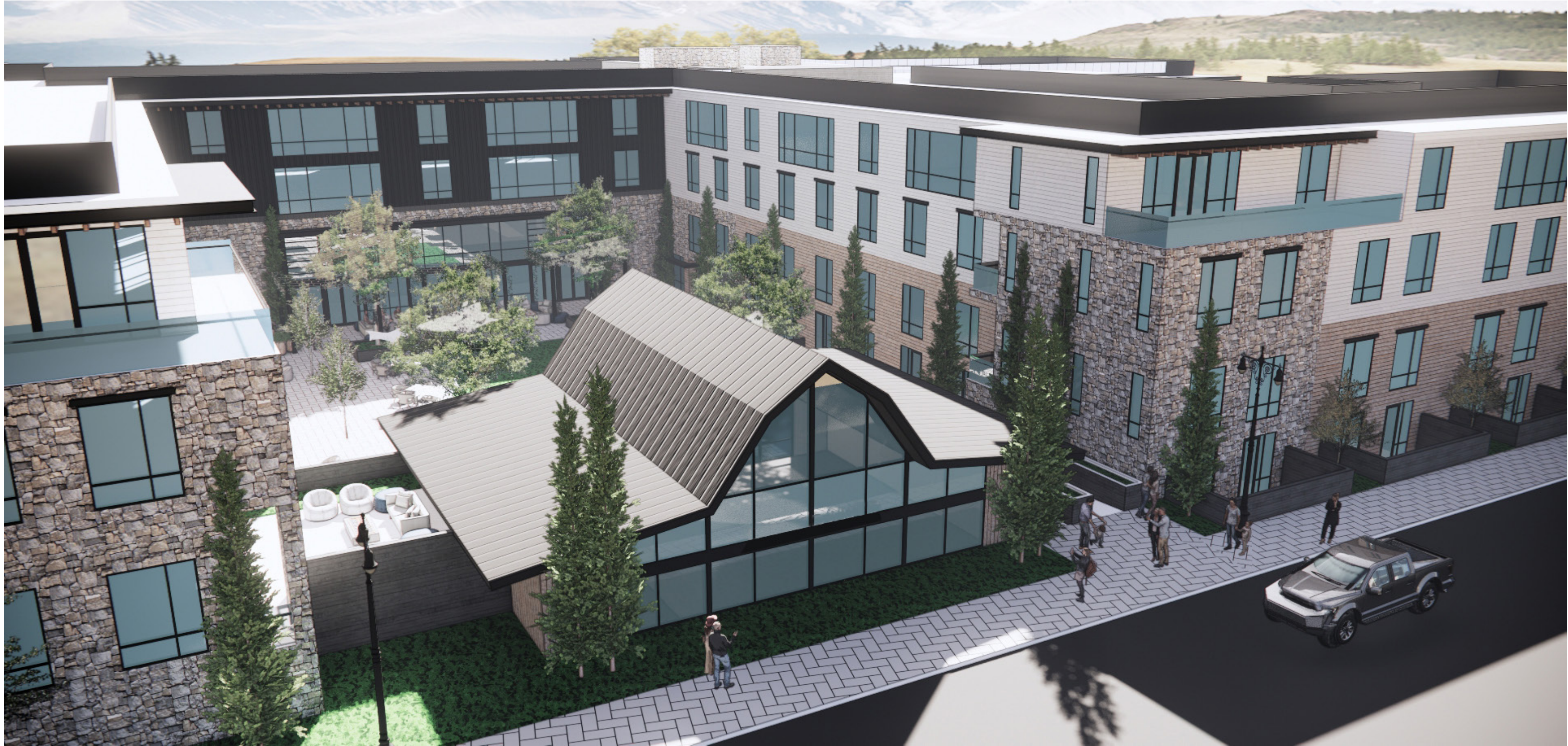












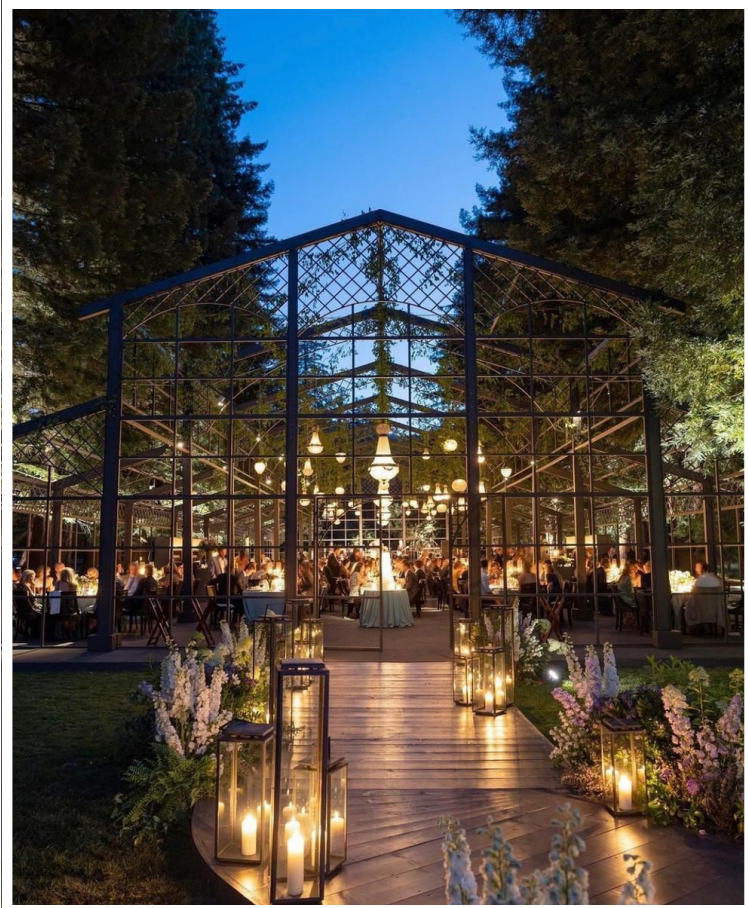




PLACE MAKING & ARCHITECTURE









THANK YOU



Building Square Footage Breakdown

The floor plate area breakdowns are detailed below:

- Basement 2 – 92,885sf
- Basement 1 – 72,454sf
- Level 1- 61,834
- Level 2 – 69,707
- Level 3 – 69,100
- **Total – 365,980 SF**

DATE: March 22, 2024

TO : Town of Jackson Planning and Zoning Department
PROJECT : Jackson Hotel , 335 North Cache Street, Jackson, WY83001
RE: Land Development Regulation Compliance and Narrative Project Description

Land Development Regulation Compliance

Zoning : Section 2.2.12 CR-2 Commercial Residential – 2

2.2.12.B.1 Lot Standards

ITEM 1: Building Setbacks:

- 1.1 Primary Street Setback range

Required : (min-max) 0'-10'
Provided : 4'- 6'
- 1.2 Secondary Street Setback range

Required : (min-max) 0'-10'
Provided : 2'-10'
- 1.3 Side Interior
Required : (min) 5'
Provided : 5' – 6'
- 1.4 Rear
Required : 10'
Provided : 10'
- 1.5 Abutting protection
Required : (min) 10'
Provided : Not Applicable

ITEM 2: Landscaping Area:

2.1 Landscape Surface Ratio:

Required : 10% = 11,300 SF

Provided : 11.64% = 13,158 SF

ITEM 3: Plant Units:

3.1 All uses :

Required : 1/1000 SF Landscape Area

Provided : Will Comply

Required : 1/12 Parking spaces

Provided : N/A

ITEM 4: Fencing:

4.1 Height in any primary or secondary street yard

Required : (max) – 4'

Provided : 3'-6"

4.2 Height in interior side or rear yard

Required : (max) – 6'

Provided : 6'

4.3 Setback from pedestrian frontage

Required : (min) – 1'

Provided : 2' – 10'

4.4 Setback from side or rear lot line

Required : (min) – 0'

Provided : 2' – 10'

ITEM 5: Parking Setbacks:

5.1 Primary Street, above ground

Required : (min) 30'

Provided : N/A

5.2 Secondary Street, surface parking

Required : (min) 30'

Provided : N/A

5.3 Secondary Street, tuck-under, enclosed, or structured parking

Required : (min) – 0'

Provided : 0'

ITEM 6: Access:

6.1 Curb Cut Width

Required : (max.) 24'

Provided : along Glenwood - 24'

Along North Cache – 20'

2.2.12.B.2 Bulk Standards

ITEM 7: Street Façade :

7.1 Width of ground and second story in primary street setback range:

7.1.1 % of lot width

Required : (min) 70%

Lot width is 500' -> $500' \times 0.7 = 350'$ min.

Provided : L1 - 388' ; L2 – 388'

7.1.2 Length from street corner

Required : (min) 30'

Provided : L1 – 200' ; L2 – 200'

7.2 Width of ground and second story in secondary street setback range:

7.2.1 % of lot width

Required : (min) 35%

Lot width is 290' -> $290' \times 0.35 = 101' - 6''$ min.

Provided : L1 - 120' ; L2 – 120'

7.2.2 Length from street corner

Required : (min) 30'

Provided : L1 - 120' ; L2 – 120'

7.2.3 Forecourt

Required :

1/3 of façade width (max) , 35' depth (min), within 30" of grade, transparency of forecourt facing façade 40%

Provided :

388' façade width – 1/3 -> 129' provided , 47' depth, 24" of grade , transparency 40%

ITEM 8: Building Height:

8.1 Stories :

Required : (max) 3

Provided : 3 stories above grade + 2 Exempt Basement Levels

8.2 Required : min. Height 24' ; max. Height 42' to Top Of Parapet (T.O.P.). Exception- 75% transparency for roof railings/parapets

Provided : min. Height 40.7' ; max. Height 45.1' (75% transparency for railings where roof parapets exceed 42')

ITEM 9: Building Stepback:

9.1 Stepback for any 3rd story street façade or street façade over 30' :

Required : (min) 10'

Provided : 10'

9.2 Encroachment in setback

Allowed : (max % of overall façade width) 60%

Overall façade width is 754' X 60% -> 452.4' allowed for encroachment. 754' x 40% -> 301.6' (min) 10' step back required.

Provided : 412' width of 10' step back

ITEM 10: Scale of Development:

10.1 Total Site Area 2.59 Acres (113,000 SF)

10.2 Allowed Rental FAR 0.8 – 90,400 SF

10.3 Total 2:1 Bonus Housing 110,745 SF

10.4 Basement Exempt Area:

Occupied – 89,806 SF

Basement Parking – 75,533 SF

10.5 Total Occupied Area (Excludes Structured Parking) – 290,447 SF

10.6 Total Building Area Including Parking – 365,980 SF

10.7 Total Nightly Rentable SF (Includes 90,400 Allowed + 89,806 Exempt) – 180,206 SF

2.2.12.B.3 Form Standards

ITEM 11: Pedestrian Frontage:

11.1 Trees in Grates

11.1.1 Frontage dimensions

Required : 13.5' min. from back of curb

Provided : 13.5' min.

ITEM 12: Building Frontage Options : Residential

12.1 Story Height:

Required : Ground story height (min) – 9'

Upper story height (min) – 9’

Ground Floor elevation (min/max) – 0’-5’

Provided : Ground story height (min) – 12’

Upper story height (min) –10’

Ground Floor elevation – 3’

12.2 Transparency:

Required : Ground story primary street (min) – 20%

Ground story secondary street (min) – 20%

Upper story, primary/secondary (min) – 20%

Provided : Ground story primary street – greater than 20%

Ground story secondary street – greater than 20%

Upper story, primary/secondary – greater than 20%

ITEM 13: Parking Type Options : Underground parking

2.2.12.B.4 Environmental Standards Noted, N/A

2.2.12.B.5 Scenic Standards

ITEM 14: Exterior Lighting:

14.1 Light Trespass is prohibited.

Site Lighting design prohibits trespass.

14.2 All Light Fixtures over 600 Lumens shall be fully shielded.

All Light Fixtures that are over 600 lumens are fully shielded.

14.3 Max Lumens per sf of site development

Required : 3

Provided : Will Comply

14.4 Lumens per acre of site development (max):

Required : All Fixtures : 50,000

Unshielded Fixtures : 2,000

Provided : Will Comply

14.5 Light Color

Required : $\leq 3000\text{K}$

Provided : 3000K

2.2.12.B.6 Natural Hazard to Avoid Noted, N/A

2.2.12.B.7 Signs Noted and will comply

2.2.12.B.8 Grading, Erosion Control, Stormwater Noted

2.2.12.B.9 Physical Development Permit Required

ITEM 15: >15,000 SF Required:

- Sketch plan
- Development plan
- Building permit
- DRC review

2.2.12.C 1 Allowed Uses

ITEM 16: Allowed Uses:

16.1 Mixed Uses – Residential / Lodging

2.2.12.C 2 Use Requirements

ITEM 17: Use Requirements:

17.1 Parking:

17.1.1 Residential

Parking Factor – 1.5

Residential Unit Count – 36

Parking Stalls:

Required : 54

17.1.2 Commercial:

Hotel Parking Factor – 0.75

Hotel Unit Count – 171

Parking Stalls:

Required : 129

Restaurant Parking Factor – 1/73 SF

Restaurant Area – 2,000 SF

Required : 28

Hotel Bar & Lounge Parking Factor – 1/40 SF /3

Hotel Bar & Lounge Area – 2400 SF

Required : 20

Café Parking Factor - 1/73 SF /3

Café Area – 1,500 SF

Required : 7

Retail Parking Factor – 3.37 per 1,000sf

Retail Area – 2,497 SF

Required : 9

17.1.3 Disability Parking Spaces

Required : >200 6+ 1 per 100 parking spaces provided

Provided : 7

17.1.4 Electrical Vehicle Supply Equipment (EVSE)

Required : (Other Residential / Lodging)

i. EVSE Capable : 30% -> 247 stalls x 30% = 74 stalls

ii. EVSE Installed : 5% -> 247 stalls x 5% = 13 stalls

Provided :

i. EVSE Capable : 74 stalls

ii. EVSE Installed : 13 stalls

17.1.5 Street Parking Credit - 27

TOTAL PARKING REQUIRED : 247

TOTAL PARKING PROVIDED : 247

2.2.12.C 3 Operational Standards Noted and will comply

2.2.12.D 1 Allowed Subdivision and Development Options Noted

2.2.12.D 2 Residential Subdivision requirements Noted

2.2.12.D 3 Required Subdivision and Development Option Permits Noted

6.6.3 Amount of Affordable Workforce Housing Required

ITEM 18 18.1 Attached Dwelling , Apartment

Required : $0.000017 * sf + (\text{Exp}(-14.17 + 1.59 * \text{Ln}(sf)))/ 2.176$

Provided :

18.2 Conventional Lodging (6.1.5.B), Short-Term Rental Unit (6.1.5.C)

Required : $0.102 * \text{room}$

Provided :

18.3 Restaurant/Bar (6.1.6.E)

Required : $0.000599 * sf$

Provided :



March 21, 2024

RE: Miscellaneous Planning Request: N Cache Lodging and Residential Development

Dear Town Staff,

Pursuant to the Pre-Application comments provided by the Town Staff and respective departments on October 25th, 2023, please find responses to the individual items below. For those items requiring exhibits, please find them on the pages following this narrative and response. Each has been labeled for reference. To guide the reading below, the comments received from the Town are marked with a number, whereas Mogul's response begins with a letter.

Project Specific Comments:

1. The established adjacent street grades shall be used to establish back of sidewalk grades assuming a 1.5% max cross slope. The building shall be designed to connect into these grades and the sidewalk grades shall not be adjusted to meet the building. All accessible route grade adjustments shall be within the property.
 - a. Please find this addressed in the attached plan set.
2. Street frontages should comply with zoning regulations and provide for a detached sidewalk to the greatest extent possible. Existing curb cuts shall be removed. ADA accessible routes to the streets and crossings shall be provided, including reconstruction of the corner ramps.
 - a. Please find this addressed in the attached plan set.
3. The proposed grades at the arrival drive through on Cache look challenging and if allowed all grade adjustments shall be from the back of the sidewalk that shall remain elevated across any driveways.
 - a. Please find this addressed in the attached plan set.
4. A WYDOT Access permit is required for access from Cache Street.
 - a. Mogul Capital successfully pursued an appeal from WYDOT for access off of North Cache. The appeal and approval was received on January 19th, 2024.
5. In addition to access WYDOT permits for utilities, landscaping, and construction may also be required.
 - a. Mogul will be prepared to procure any additional permits further in the design and development process that are required to proceed with the Project.
6. For sketch plan a preliminary construction management plan needs to be provided, specifically any possible work, crane, or staging that needs to be done from the right of way should be minimized and shown. Fees for use of the right-of-way are in place around this development. Use of equipment in the travel ways should not be part of the plan.

- a. Please see attached. Mogul will work with the TOJ to agree to a detailed construction management plan at the appropriate time.
7. While the contaminated soils may be removed during construction, impacts to groundwater may still be an issue. Provide information on how construction and any permanent dewatering/treatment are being mitigated.
 - a. Mogul Capital has completed environmental studies on the site conditions today. We will work with a qualified environmental expert and the Town to address and generate a plan to mitigate the contaminated soils and the dewatering/treatment requirements throughout the process. A full environmental mitigation plan that includes the requested details will be provided further through the entitlement and design process.
8. The Cache Creek Tube (CCT) is routed through the project area. Provide the plan for rerouting the CCT around or through the project. Lumen (CenturyLink) has not provided any information on moving their trunk line from the path of the CCT at Mercill and Cache. A more practical option may be to route the line around the project west of where it crosses the trunk line.
 - a. Please find attached a utility re-routing plan that addresses this comment.
9. Public Works position is that the entire alley be vacated and not a partial vacation. The following should be considered with the vacation: Any sewer in the alley needs to be re-routed around the vacation. The main needs to be re-established in Mercill and any private services accessing the sewer main in the alley should be routed directly to Perry or Glenwood. Any sewer main remaining in the alley should be reconstructed to current standards as part of the project. Any private water mains in the alley should be abandoned or re-routed from the alley.
 - a. Please find attached a utility re-routing plan that addresses this comment. Mogul is open to discussing the full vacation of the alleyway and maintaining the piece that will remain.
10. Driveways and alleys crossing the sidewalk shall be done per the Town standard driveway detail with elevated sidewalk and no curb returns.
 - a. Please find attached a plan set that addresses this comment.
11. The proposed delivery access off of the alley does not look feasible. Provide design vehicle and maneuvering models.
 - a. Please find attached a plan set that addresses this comment.
12. Provide clarification on trash and recycling enclosures
 - a. Please find attached a plan set that addresses this comment. Mogul Capital will work with the Town to ensure that the trash and recycling enclosures meet Town standards.
13. All utility pedestals, transformers, private service line, code required clear spaces, etc. shall be within the private property.
 - a. This will be incorporated, and a plan will be finalized with the town prior to building permit applications.
14. There is a 6-inch steel gas main that runs along the west Cache Street right-of-way line, adjacent the Towns water main, that needs to be considered in constructability.
 - a. Please find attached a utility re-routing plan that addresses this comment.

15. The may desire to replace and upsize the water main along Cache Street in conjunction with this project to minimize disturbance and utilize construction efficiencies.
 - a. Mogul is prepared to work with the Town and Public Works to find construction efficiencies for desired Town upgrades.
16. Perry Street is in need of improvements and should not be utilized for construction or hauling of materials.
 - a. This is noted and will be considered in the complete Construction Management Plan further in the design and approval process.
17. There is no separation between the alley and parking garage entrance. Relocate the parking garage entrance or explain how traffic conflicts will be mitigated between the two access points.
 - a. Please find attached a plan set that addresses this comment.
18. Provide estimated water demands, sewer volumes, and stormwater quantities and information regarding whether or not they have an impact on Town utilities.
 - a. Mogul Capital will work with consultants and the Town Public Works to provide detailed utility usage information throughout the design and approval process.

TOJ Code:

1. Plans provided shall show all work to be completed within the Towns right-of-way.
 - a. Please see attached plan set. Mogul will work with the Town of Jackson on Mercill and Perry, and WYDOT/State on N Cache.
2. Show all encroachments into the Towns right-of-way or easements. Encroachment agreements are required for encroachments of buildings, retaining walls, foundations, canopies, balconies, roofs, shoring, etc.
 - a. Please see attached plan set.
3. A demolition permit is required for each existing structure to be removed from the site. Water and sewer services to be abandoned for the project shall be abandoned at the main during the demolition phase of the project
 - a. Mogul will continue to abide by permitting processes and will procure any permit required to work through demolition.

Land Development Regulations:

1. Development shall comply with the physical development standards for its zoning.
 - a. Mogul will abide by the Land Development Regulations and the plan set attached herein addresses the Town comments to meet code.

Natural Hazards Protection Standards:

1. Unstable Soils: Identify any unstable soils and show compliance with this section.
 - a. Through the design and approval processes, Mogul will work with consultants to identify and display soil stability.
2. Faults: Identify any unstable soils and show compliance with this section.
 - a. No fault lines are identified on site.
3. Floodplains: Identify and floodplains or floodways and show compliance with the municipal code and / or the LDRs.
 - a. No floodplains are identified on site.

Landscaping Standards:

1. Provide a plan that complies with the LDRs.
 - a. As similarly completed with The Loop Project, Mogul will provide a detailed landscaping plan that abides by the Town's LDRs through the Design Review Committee process.

Grading, Erosion Control, and Stormwater:

1. Grading Permit Required: Provide information on how the application will comply with this section, including the Geotechnical Report.
 - a. Mogul will work with Civil and the Town Departments to procure required grading permits that abide by the grading standards. Please reference the attached Geotech report.
2. Grading Standards: Provide a grading plan that shows compliance with this section. Plan shall include existing and proposed site contours with elevation labels, spot elevations, high and low points, grade breaks. Provide easements for grading proposed on adjacent properties.
 - a. A full grading plan will be submitted in conjunction with the grading erosion and control application through the design and approval process.
3. Erosion Control Standards: Provide an erosion control plan that shows compliance with this section.
 - a. A full erosion control plan will be submitted through the design and approval process.
4. Stormwater Management Standards: Provide an erosion control plan that shows compliance with this section.
 - a. A full stormwater management plan will be submitted through the design and approval process.

Parking and Loading Standards:

1. Required Parking and Loading: Provide a plan that shows the proposed parking in compliance with this section. Include location and dimension of parking spaces, accessible spaces, including van accessible spaces, and bicycle parking. For uses that require delivers, show the proposed loading facilities.
 - a. The attached plan set includes the information on the parking provided, which is in compliance with the LDR requirements for the subject Project.
2. Off-Street Parking and Loading Design Standards: Provide a parking plan in compliance with this section. Include surface materials and drainage plans, access and circulation, and snow storage.
 - a. Similarly to The Loop Project, Mogul will provide a parking plan and parking management plan throughout the design and approval process. The attached plan set details the proposed parking structure.

Operational Standards:

1. Outside Storage: Provide a Construction Management Plan / Narrative, for any offsite storage address compliance with this section

- a. A full construction management plan will be provided further in the process, similar to The Loop process.
- 2. Noise: Provide a Construction Management Plan / Narrative, for any offsite storage address compliance with this section.
 - a. A full construction management plan will be provided further in the process, similar to The Loop process.
- 3. Vibration: Provide a Construction Management Plan / Narrative, for any offsite storage address compliance with this section.
 - a. A full construction management plan will be provided further in the process, similar to The Loop process.

Subdivision Standards:

- 1. Provide plans and specifications for roads, streets, alleys, sidewalks, and pathways including street light, signage, and markings
 - a. Please reference the attached plan set.
- 2. Provide a sanitary sewer wastewater plan.
 - a. A sanitary sewer wastewater plan will be provided in the design and approval process.
- 3. Provide a water supply plan
 - a. A water supply plan will be provided in the design and approval process.
- 4. Provide a storm drainage plan, basins, calculations, treatment method. Stormwater discharged to a public storm sewer or right of way requires treatment. Wyoming DEQ 5D2 permits are required for subsurface discharges
 - a. A full plan will be provided through the design and approval process. Mogul will pursue any required permits per Wyoming DEQ code.
- 5. Provide an irrigation plan or statement
 - a. An irrigation plan or statement will be provided in the design and approval process.
- 6. Provide a plan for permanent reference monuments, property corners, etc
 - a. Such plan and information will be provided in the design and approval process.
- 7. Permits are required prior to construction of development improvements
 - a. Mogul will procure any required permits prior to construction of development improvements.
- 8. All improvement shall be designed by a professional engineer licensed to do such work in the State of Wyoming
 - a. All improvements will be designed by a professional engineer licensed to do work in Wyoming.
- 9. The Town Council may require installation and construction of utilities, pavement and other land improvements in excess of subdivision design needs, to assure adequate service to future development areas.
 - a. Mogul is looking forward to hearing the Town Council feedback on installation and construction of utilities.

Transportation Facility Standards:

1. Access to Roads, Streets and Highways: Provide a plan showing the point of access. Show compliance with the standards for access and justification for access to collector and arterial roads.
 - a. The attached plan set includes detail on points of access.
2. Streets Alleys and Easements: Provide a plan showing all proposed streets, alleys, and easements. Show compliance with the general standards, extension, engineering access, right-of-way, pavement widths, urban and rural classification, alignment, profile, grades, and intersections
 - a. The attached information and plans includes requested information.
3. Provide a plan that generally complies with the Community Streets plan and Bicycle improvements plan. Include property lines, dimensions, radii, elevations, slopes, grade changes, etc.
 - a. Please reference attached plan set.
4. For all pedestrian areas provide a plan that includes: dimensions, radii, elevations, slopes (running and cross slopes, not oblique slopes), ramp slopes, grade breaks, stair dimensions, handrails, guards, etc. showing compliance with ADA, IBC, and Town standards.
 - a. Please reference attached plan set. Further in the design and review process, additional civil plan sets will be provided for approval that include deeper level of detail.

Required Utilities:

1. Provide a water supply plan and estimated average day, maximum day, and maximum hour, required fire flows, and per capita maximum daily demands. Demands shall be determined by one of the following: Wyoming DEQ Chapter 12 Section 8 (equivalent per capita water use shall be at least 125 gpd and 340 gpd for average and maximum day respectively); Wyoming DEQ Chapter 25 Tables 1 and 2 with consumption and irrigation factored in, metered water supply data from another development where similar water demands have been demonstrated, or other Town Engineer approved source.
 - a. As previously mentioned, a water supply plan will be provided through the design and approval process.
2. Provide right-of-way or easements as required, 30 feet minimum width with 10 feet minimum to either side.
 - a. Please reference attached materials.
3. Provide a water system analysis indicating the required domestic and fire flow demands. Identify impacts to or upgrade requirements for the existing distribution, supply, or treatment system.
 - a. A water system analysis will be provided further in the design and approval process.
4. Show compliance with state regulations, construction standards, connections for lots of record, provisions for system expansion, and fire protection. Provide information on planned metering and backflow prevention locations.
 - a. Please reference attached materials.

5. State whether the water system will be privately or publicly owned. Water services over 2-inch in diameter require engineering design. Water mains larger than 8-inch and or longer than 250 feet require a Wyoming DEQ permit.
 - a. The water system will be privately owned, the project will not require a DEQ permit as no service will be longer than 250 feet and service lines will come from the existing mains.
6. Provide a sanitary sewer wastewater plan and estimated average day, maximum day, and peak hour for the design of the project, per capita design flows, extraneous flows, and industrial and/or commercial waste volumes. Volumes shall be determined by one of the following: Wyoming DEQ Chapter 25 Tables 1 and 2; metered water supply data from another development where similar water demands have been demonstrated; or other Town Engineer approved source
 - a. As previously mentioned, this information will be studied and provided in the design and approval process, similar to The Loop Project.
7. Sanitary Sewer - Provide right-of-way or easements as required, 30 feet minimum width with 10 feet minimum to either side.
 - a. Please reference attached plans. No new sewer mains are anticipated at this time.
8. Provide a sanitary sewer analysis. Identify downstream impacts on existing sewers, lift stations, and treatment facilities.
 - a. Addressed in the Subdivision Standards section above.
9. Show compliance with state regulations, construction standards, maximum allowable infiltration, connections for lots of record, provisions for system expansion.
 - a. Mogul will comply with State Regulations.
10. State whether the sewer system will be privately or publicly owned.
 - a. Previously addressed herein.
11. Provide an irrigation plan when the system is for the entire development or the system will be owned by the Town. For all systems provide the irrigation water demand, type of backflow preventer, location, and whether irrigation will be metered separately from domestic.
 - a. Addressed in the Subdivision Standards section above.
12. Show compliance with surface water rights (if applicable), irrigation surface water runoff, setbacks to ditches, and access to ditches.
 - a. Noted.
13. Show compliance to standards for any alteration of an irrigation ditch.
 - a. Not applicable to the project.
14. A Wyoming Department of Transportation license is required for irrigation systems and landscaping located within the WYDOT right-of-way.
 - a. Acknowledged and will procure if necessary.
15. Provide a plan for all other utilities, such as telephone, cable TV, electric, fiber, gas. All utilities shall be installed underground. Provide right-of-way or easements as required. Show that private utilities can be located on private properties, e.g. transformers.
 - a. Please see attached utility plan.

16. Provide a plan showing any buried fuel storage tanks. All fuel storage tanks for private residential use, except for LP (liquid petroleum) gas and kerosene, shall be underground. All fuel tanks shall meet setbacks for accessory structures in the applicable zone, and no fuel may be buried within 50 feet from any stream, excluding irrigation ditches.
 - a. Not applicable to the Project, as no buried tanks are on site or will be.
17. How will the project mitigate traffic by reducing trips, e.g. post office, access to START, connectivity to pathways, etc.
 - a. Please see attached traffic study showing no material impact at full operations.

Fire Department Reviews:

1. The owner or owner's agent shall be responsible for the development, implementation and maintenance of an approved, written site safety plan establishing a fire prevention program at the project site applicable throughout all phases of construction. Project must meet most current International Fire Code (IFC) requirements including but not limited to applicable life safety systems.
 - a. Understood and Mogul will abide by the IFC.

WYDOT Comments:

1. Access should be via solely local side streets. Direct access to US 89 (N Cache) is not allowable. The proposed Porte cochere must be relocated. The applicant should anticipate providing the following for WYDOT review, which may not be entirely inclusive: a Traffic Impact Study for impacts/mitigation on surrounding local streets & intersections, Structural/Geotechnical report for vertical construction fronting N. Cache, Drainage/Stormwater report, etc.... Any improvements such as landscaping, curb cuts, sidewalks, temporary traffic control, etc. within the N. Cache highway right-of-way must follow WYDOT design requirements and obtain the necessary permits landscape feature and/or other improvements must not obscure intersection/driveway sight distance, highway traffic control devices or any signage, not violate ADA access guidelines, maintain pedestrian/bicycle passage, (For example, trunk diameter of shrubbery or trees planted within the R/W greater than 4 inches diameter must comply with clear zone criteria, tree canopy must not be less than 19 feet above the roadway surface, low lying plants at maturity must be at least 2' behind the back of curb, plants must be less than 2.5 feet tall,). It should be noted that Mercill Ave is a local truck route. Any new utilities or connections to existing utility facilities must obtain the appropriate utility license(s) (M54 and/or M21) from WYDOT. Comply with ADA standards for temporary construction and final operations.
 - a. As previously mentioned, Mogul Capital received approval from WYDOT for the access located off of North Cache.

Remediation Engineer

1. It looks like Moguls plans have the floor of the parking garage 16 feet below ground surface (Basement Level 2). This suggests that constant groundwater pumping by Mogul will be required to draw the static water level below the parking garage. This plan may also require Mogul to treat the extracted groundwater and then discharge to a POTW or storm drain (depending on post remediation groundwater

concentration). Post remediation vapor intrusion may also remain an issue leading to the need for Mogul to construct subslab vapor barriers, soil gas depressurization systems, and/or ventilation systems. Discharge of the vapors/soil gas may also require treatment.

- a. As previously mentioned, Mogul is and will work with qualified environmental experts to generate a workable and approved plan to address the groundwater and subsequent discharge.
2. Town homes are to be built on top of the area where the core of the current Teton Texaco impacts are located. Moguls B1 level for town homes in the NE corner of the redevelopment area, extends six feet below ground surface. The natural groundwater elevation in this portion of the site fluctuate above and below this elevation. The need for Mogul to construct and operate post remediation subslab vapor collection, dewatering, and water treatment systems may apply here too. We need to make sure Mogul understands that the WDEQ remediation will not eliminate all subsurface petroleum contamination and the residual (post WDEQ remediation) impacts will affect their design, construction, and long-term operating costs.
 - a. As previously mentioned, Mogul is and will work with qualified environmental experts to generate a workable and approved plan to address the groundwater and subsequent discharge. In addition, Mogul will address any subslab vapor collection and treatment with the environmental consultant and town representatives.

Pathways Department

1. All sidewalks that cross driveways or alleys shall be constructed as a continuous sidewalk with no change in elevation from the sidewalks on either approaching leg. The sidewalk elevation as it crosses the driveway shall not dip down and it shall match the sidewalk elevation on either side of the driveway. Any vertical change from the street elevation to the sidewalk elevation should be restricted to the driveway apron in the buffer space between the sidewalk and street. Concrete sidewalk surfaces and texture shall continue uninterrupted across the entire access driveway. Given the location, type of use, and parking plan of the proposed development, staff expects that there will be a moderate demand for bicycle parking. The applicant should work to meet the proposed standards for bike parking currently up for adoption by the Town Council.
 - a. Please see attached plan set which addresses.

General Comments

1. Staff recommends contacting WYDOT as they are prohibiting access from North Cache. WYDOT has an Access Application and WYDOT will deny access from North Cache based on their traffic models. However, there is an appeal process that follows denial.
 - a. As mentioned herein, Mogul received approval from WYDOT for the access off of North Cache on January 19th.

2. FLOOR AREA BREAKDOWN - In the Sketch Plan and Development Plan submittal, the applicant needs to clearly identify how/where the base FAR and 2:1 bonus are being allocated both in the floor plans and narrative. When calculating FAR, hallways, mechanical spaces, stairs, and elevators count. Stairs are counted every two floors and elevators are counted only once. The previous Loop project did a good job of breaking down the floor area via color-coded plans. Use that as an example for this project.
 - a. Please reference attached materials.
3. STREET DESIGNATION - Cache and Glenwood will be primary streets and the other streets secondary. Primary streets require a 70% building frontage within the 0'-10' setback range. The 0- 10 measurement is not from the property line but rather starts 13.5 back from the existing back of the curb. Secondary streets require a 30% building frontage use the same setback range as the primary (i.e., 0-10 and measured 13.5 back from the back of curb).
 - a. Please see attached plan sets which incorporate the noted adjustment.
4. PEDESTRIAN FRONTAGE TYPE - The pedestrian frontage type requires Trees in Grates
 - a. Please see attached plan sets which incorporate the noted adjustment.
5. BASEMENT DEFINITION - Staff would like additional clarification on the floor plan for level B1. This appears to be represented as a partial basement level. Applicant needs to clarify if it complies with the definition - "A basement is any story for which the finish floor of the story above is less than four feet above finished grade for at least 50 percent of the perimeter of the story and at no point greater than ten feet above finished grade." Based on the section plans this level is 6 above grade which does not constitute a basement.
 - a. Please see attached plan sets which clarify. Mogul is happy to discuss any additional questions the Town may have regarding floor level B1.
6. ALLEY VACATION - If the Town Council approves an alley vacation or vacates a portion of the alley, and public access is allowed through the site from Mercill to Glenwood, the access path will need to be improved to better welcome and signal public access. As currently drawn, the public is likely not going to walk down the stairs to what appears to be a private hotel pool and then continue walking north past the pool through the small pinch point that is shown on the plans. In an attempt to provide meaningful public access, this area should be opened up so that it is clear to the general public that access is not only allowed but welcomed. The current plan does not accomplish that. Gaslight alley is a better example of welcoming the public through the site. Staff can discuss this further at the pre-application. The Town may require a public access easement for these same areas as a condition of any vacation of the alley.
 - a. The attached plan set clarifies the circulation and access of the descending paseo which provides walkability to the Project's features. Mogul has provided a full alley vacation package to the Town, which further details the functionality of the paseo and project space and how it invites the public to public amenities within the project.
7. ACCESS - Need to discuss the maximum 24 curb cut standard and the 30 primary street surface parking/circulation setback.

- a. Please reference attached plan set.
- 8. CACHE CREEK MOTEL - The applicant shall engage with the owners of 390 N. Glenwood (Cache Creek Owner LLC) to ensure that their concerns are addressed in any alley vacation scenario.
 - a. Mogul Capital has reached out to the Cache Creek Lodge representatives and respective counsel to discuss their concerns surrounding the alley vacation design and has not heard back.
- 9. ENCROACHMENTS - Are there any proposed encroachments into the right-of-way along any of the 4 streets or alley? (soil nails, decks, porches, balconies, roof eaves?)
 - a. Not at this time.
- 10. EV PARKING - EV parking standards will apply to this development.
 - a. Mogul Capital will incorporate EV parking to meet the Town Standards.
- 11. BIKE PARKING - The new bike parking standards will likely apply to this development as those standards should be effective in mid/late December.
 - a. Understood, and Mogul will work with the Town to confirm that the applicable bicycle parking requirements are satisfied.
- 12. UPCOMING LDR CLEAN-UP – It is possible that the new LDR clean-up items will apply to this development. Notable changes would be the increase in snow storage requirements from 2.5% to 10%.
 - a. Noted Mogul will comply with applicable LDR standards.
- 13. ROOFTOP DECKS AND HEIGHT - Need clarification on the rooftop deck areas to ensure they comply with the height requirements. Based on the section plans which show the building at 42, there is no way the rooftop amenities (railings, canopies, etc.) could be added as they would exceed the height limit of 42. Elevators and rooftop stairs can exceed the height by up to 10 provided that cannot be viewed from an adjacent street at a vantage point of 6 vertical feet.
 - a. Please reference attached plan set which includes requested change.
- 14. SIDE INTERIOR SETBACK - The CR-2 zone has a 5 interior building setback from the property line adjacent to the Cache Creek Motel and the alley.
 - a. Please reference attached plan set which includes requested change.
- 15. LANDSCAPE SURFACE RATIO AND PLANT UNITS - Demonstrate compliance with the 10% LSR requirement and plant unit requirement. All required plant units need to be provided on-site.
 - a. Please reference attached plan set.
- 16. 3RD STORY STEPBACK - There appears to be no effort to meet the 3rd story step-back requirement. The LDRs require a 10 setback for the 3rd floor but allow a 60% encroachment per street. This means on a 100 long building, at least 40 of the 3rd floor must be setback 10.
 - a. Please reference attached updated plan set which incorporates.
- 17. PARKING REQUIRED - Need clarification on the amount of parking required. The commercial / restaurants do not appear to be factored into the requirements. In addition, staff did not find any historical parking credits tied to any of the subject properties. Also, is the hotel parking managed via valet parking?

- a. Please reference attached plan set which includes the parking requirements against the parking provided. The hotel will offer valet parking for guest, condo owners, and public who visit the Project's amenities.
- 18. SUBDIVISION - Are there any plans to subdivide units/spaces into ownership condominiums?
 - a. Yes, the proposed residential units will be programmed as condominium ownership units.
- 19. LDR COMPLIANCE - Applicant needs to provide a full LDR compliance checklist and housing mitigation plan.
 - a. Please see attached LDR Housing Mitigation Checklist and the narrative surrounding the plan to mitigate the housing requirements offsite at The Loop.

Sincerely,
Brad Wagstaff
Chief Executive Officer



Neighborhood Meeting Summary

Date: 11/9/23

Location: Teton County Library

Attendees:

- Mogul Capital Team (Brad Wagstaff, Brent Layton, Landon Munson, Sienna Wagstaff)
- Stefan Fodor (Fodor Law Office)
- Michael Pruett
- Ed Liebzeit
- Michael Kudar
- Elenor Schroth
- Joe Pawlson
- Estella Tewazcs
- Diana Waycott
- Tim Waycott
- Sandra Murphy

The Applicant gave a general overview of the history of the project, the current plans being submitted to the Town of Jackson, and how the project was being housed at the Loop.

The Applicant opened the floor to questions. Those questions are summarized below.

1. How much parking will be provided? 117 spaces for the hotel and 72 for the residential component. All underground. NOTE THAT THESE NUMBERS HAVE INCREASED SINCE THE MEETING.
2. What will occur with current utilities in the alley? This item is still being studied, but most will be re-routed around the perimeter of the property.
3. Will North Cache remain as the main access to the development? That is the applicant's intent, and it is working with WYDOT to that end.
4. The development will displace several small businesses on Glenwood and Mercill. What is the plan for those businesses? The applicant will give plenty of notice to those businesses as it has yet to submit its Sketch Plan application so it will be some time before groundbreaking. Groundbreaking will likely occur on the entire site at once since there is no feasible way to phase construction and no demo date has been set for the buildings containing existing businesses. The sub work and clean up will take some time.
5. The applicant was asked to explain the color coding on the applicant demonstrative exhibits. The applicant explained the breakdown of the proposed building and that it was four stories with a 42 foot tall overall height including the zero level. NOTE THIS HAS SINCE CHANGED FROM THE MEETING.

6. How will parking be handled for hotel guests and restaurant and spa patrons? Most parking will be through the valet service, though overnight guests and residents will have the ability to self-park.
7. Will the street parking on Mercill and Glenwood be retained and is that parking included in the prior calculations. All existing Mercill and Glenwood parking will be maintained, though some of it may be disrupted through portions of the construction period.
8. What happens when the parking lot is full? Some on street parking will be utilized like existing businesses currently do.
9. Are there any rooftop amenities? Some are being considered, but this all has to work within the overall 42 foot height allowance.
10. Will the spa be open to the public? The spa, wellness center and gym will be open to the public as will the restaurant, bar, lobby and event spaces. The Cloudveil Bistro example was cited.
11. Will the auxiliary uses utilize on street parking? This will be a combination of valet and on street parking. This will depend on hotel demand and time of day.
12. Concerns were raised about the development being under-parked. The development exceeds Town of Jackson requirements and based on past experience in other locations and traffic studies here, along with the rising popularity and supply of ride sharing, the applicant is comfortable with its parking program.
13. Will the development have shuttle service for its employees? It is the intent to run shuttles between the Loop and the North Cache project.
14. Existing businesses take up a lot of on street parking. High Country Linens representative stated that he has 75 employees in the summer, 65 year round and 25 employees housed in the vicinity.
15. How many employees will the hotel have? The developer currently estimates 60 hotel employees.
16. Will the hotel be flagged? This is undetermined at this time. If so, it will be a soft flagged hotel.
17. What is anticipated at the event bar? Wedding venue, reunions, parties and those sorts of events will occur in the 2,500 sf barn and it will be open to the public.
18. How many deed restrictions are being provided at the loop? 81 deed restrictions total. The alley vacation request is combined with an offer to turn 30 workforce restrictions into affordable restrictions. The loop is anticipated to break ground in March of 2024 so the housing will be provided in advance of the need from North Cache. NOTE THESE ARE IN FLUX AS BUILDING SF CHANGES.
19. How will increased traffic be handled at the Loop? A center turning lane will be provided as this is a requirement of the Loop permit.
20. What type of residences will be provided? One to five bedrooms with the average being a 2 bedroom 2,000 sf unit.
21. Are any presales of residences occurring? The development is in its infancy with no approvals to date so no presales are occurring.
22. What type of liquor license will be sought? Its uncertain at this time, but it may likely be a resort license.
23. How big is the development? 31,000 sf in service, 127,000 sf of residence, 113,000 sf of commercial and 71,000 sf of garage. A total of approximately 344,000 sf. NOTE THIS HAS SINCE CHANGED WITH DESIGN UPDATES PER PRE-APP COMMENTS.
24. How will dewatering be handled during and after construction? A comprehensive dewatering and water proofing construction program is being pursued.
25. How will the paseo operate in winter? It is anticipated that the paseo will contain heated walkways as a closed loop system to limit runoff into creeks.
26. Do the sketches represent the set backs? Setbacks are zero to 10 feet and a variety of setbacks will be employed to break up the massing of the building.

27. How can the public follow the development? All residents within the notice perimeter for the project will continue to receive notices of public meetings and each public meeting will be noticed in the paper and on the Town's website.



Parking Requirements and Details

Residential Unit Parking

The proposed property has 36 residential units. In compliance with the LDRs, these units are allocated 1.5 parking spaces per unit for a total of 54 parking spaces. These parking spaces are located within the subterranean parking garage.

Hotel Parking

The proposed property has 171 hotel rooms. Each room is allocated 0.75 parking spaces, per the LDRs, for a total of 129 parking spaces allocated for hotel guest use. These 129 spaces are located within the parking garage.

Retail Parking

The property will include retail services open to both guests and the public. These retail services include a signature restaurant, hotel bar & lounge, café, and retail stores. There are 37 parking spaces within the parking structure allocated for retail parking, which can be valeted or self-parked. There are an additional 27 street parking credits associated with the property, per the LDRs. This totals to 64 parking spaces for retail and property use. Mogul Capital estimates that while all retail services are open to the public, approximately two-thirds of patrons of the hotel bar & lounge and café will be hotel guests and residents who are parked within the guest/resident parking.

North Cache Parking Requirements				
Use	Size	LDR Parking Ratio	Parking Utilization by Non Guests/Residents	Parking Required
Residential	36 units	1.5x	-	54
Hotel	171 keys	0.75x	-	129
Signature Restaurant	2,000 sf	1 space per 73 sf	100%	28
Hotel Bar & Lounge	2,400 sf	1 space per 40 sf	33%	20
Café	1,500 sf	1 space per 73 sf	33%	7
Retail	2,497 sf	3.37 spaces per 1000 sf	100%	9

Parking Summary	
Parking Required	247
Parking Provided	
Parking Garage	213
Parking Garage ADA	7
Street Parking Credits	27
Total Provided	247

Summary

Per the LDRs and Mogul Capital's operating assumptions, the required parking for the project equates to 247 spaces. The property adequately provides that requirement with a total of 247 parking spaces. Of these 247, 220 are located within the parking garage and 27 spaces are street parking credits per the LDRs.



Housing Mitigation Plan – North Cache

Housing Credits:

In review of prior uses of the site, the housing credit calculator provides housing credits for the project. These prior uses include the following:

- 375 N Cache: Teton Texaco
 - o Prior use included 3,000 sf of heavy retail and service, as the space was utilized as a gas station.
 - o This use equates to 0.369 housing credits, per the housing calculator
- 355 N Cache: The Old Orvill's Thrift Shop
 - o Prior use included a thrift shop (retail) which occupied 2,500 sf
 - o This use equates to 0.539 housing credits, per the housing calculator
- 335 N Cache: Lewis & Clark
 - o Prior use included an expedition company that occupied 1,500 sf
 - o This use equates to 1.440 housing credits, per the housing calculator
- 325 N Cache & 45 Mercill: Pioneer Motel
 - o Prior use included the Pioneer Motel, classified as conventional lodging. The Pioneer Motel held 25 keys.
 - o This use equates to 2.554 housing credits, per the housing calculator
- 330 N Glenwood & 65 Mercill: Office
 - o 330 N Glenwood: Use of the site includes an office building totaling 16,459 sf
 - o 65 Mercill: Use of site includes an office building totaling 5,366 sf
 - o This use equates to 5.204 housing credits, per the housing calculator
- 360 N Glenwood & 370 N Glenwood: Residential House
 - o Use of site included a detached single family unit (unrestricted), totaling 1,216 sf
 - o Use of site includes a detached single family housing, totaling 1,840 sf
 - o This use equates to 0.072 housing credits, per the housing calculator

In total, the prior uses of the site equate to 10.177 per the TOJ housing calculator (attached herein)

Pursuant to the Jackson/Teton County Affordable Housing Checklist – Housing Mitigation Plan submittal, please see Mogul Capital’s responses below.

As the Town is aware, Mogul Capital intends to utilize The Loop, the 194-unit approved multifamily development located off of South Park Loop Road, to mitigate the housing requirements generated by the proposed Project. The housing mitigation calculator indicates that 9.457 units are required to mitigate the project. If the project is approved, Mogul Capital would agree to deed restrict these 10 rental units at The Loop. The mitigation calculator and LDRs indicate that those units will be spread as follows:

- AMI Range: 0-50%
 - o 2 Studios
 - o 1 Two-bedrooms
- AMI Range: 50-80%
 - o 0 Studio
 - o 1 Two-bedroom
- AMI Range 80-120%
 - o 2 Studios
 - o 3 Two-bedrooms
- Workforce:
 - o 1 Three-bedroom

Per the Phasing Plan comment, The Loop will consist of two buildings. Both buildings will include a diversified mix of affordable, workforce, and market rate housing. All units in each building will be available once the respective building is delivered and a certificate of occupancy is received. Thus, those deed restricted units would be available at the same time as the market rate units.

In addition, Mogul is utilizing the 2:1 bonus housing tool for the proposed Project. As such, Mogul is required to mitigate approximately 37,544 sf of workforce deed restricted housing. This 37,544 sf would also be further deed restricted offsite at The Loop. The Town and Mogul Capital have had conversations surrounding this offsite mitigation of the 2:1 bonus workforce housing. Although not specifically provided for in the LDRs, Mogul believes this should be permitted, in line with how it is permitted for the affordable housing component. This will deliver workforce units much quicker than if they were built onsite. In addition, the tenants will not have to live and work on the same site, creating a separation of work and life. The Loop is better situated for livability, with walking access to necessary retail, grocers, and amenities.

The 37,544 sf of housing required equates to approximately 38 workforce units at The Loop. It should be noted that these numbers are subject to change with refined calculations as the design progresses. While exact details will be finalized following sketch plan approval, these units are anticipated to be distributed between both buildings at The Loop. In addition, these units would be distributed between studios, one-bedroom, two-bedroom, and three-bedroom units. While this would also be finalized following the conceptual sketch plan approval, initial math indicates that the 38 workforce units would be distributed as follows:

Workforce Unit Breakdown			
Unit Type	Qty	Unit SF	Total SF
Studio	1	391	391
1 BR	10	735	7,350
2 BR	13	1,084	14,092
3 BR	14	1,135	15,890
Total	38	-	37,723



Jackson/Teton County Affordable Housing Checklist - Housing Mitigation Plan (LDR Division 6.3.6)

Every development application must include a Housing Mitigation Plan for sufficiency. Every Housing Mitigation Plan is required to contain the following information:

Applicability (LDR 6.3.6.A.3.a)

1. Does your development qualify for an exemption from a housing mitigation requirement? Yes ☐ No ☒
If yes, explain and refer to the proper LDR _____

2. Are there credits associated with your development? Yes ☒ No ☐ If yes, explain where the existing credits came from, provide the calculation, and refer to the proper LDR. _____
Yes, the credits are associated with the prior uses of the site. These uses are detailed in the attached housing mitigation calculator.

Calculation of Requirement (LDR 6.3.6.A.3.b)

3. Does your development require or are you otherwise requesting approval of an Independent Calculation (LDR section 6.3.3.B)? Yes ☐ No ☒
If yes, provide the calculation according to 6.3.3.B.2 along with impact analysis, verifiable local information, industry specific rather than business specific data, etc. The Planning Department is available to help with this calculation prior to submittal of your application. Attach as a separate sheet.

☒ I have attached a separate sheet with the calculation and supporting data for my Independent Calculation

Housing Mitigation Requirements Calculator. If no to 1 and 3 above, calculate your development's requirement, using the Housing Mitigation Requirements Calculator. The calculator can be found at this link: www.jacksonwy.gov/200/Planning Attach a copy of the first page of the calculator showing the calculations and requirements with your Housing Mitigation Plan. The Planning Department is available to help with this calculation prior to submittal of your application.

☒ I have attached a copy of the first page of the Housing Mitigation Requirements Calculator which includes my requirement and unit types.

Type of Affordable Housing Provided – Standard Restrictions. (LDR 6.3.4)

4. How many ownership or rental units are you proposing in which income ranges with how many bedrooms?
Please complete the matrix below:

Bedrooms	0 – 50%	50% - 80%	80% - 120%	Workforce	Ownership or Rental
1-bedroom	2		2		Rental
2-bedroom	1	1	3		Rental
3-bedroom				1	Rental

Special Restriction. The Special Restriction is a contract between The Board of County Commissioners or the Town Council and the owner of real property developed or designated to satisfy the development requirements. The Special Restrictions will be recorded on the property. Appropriate restriction templates can be obtained from the Jackson/Teton County Affordable Housing Department or at this link:
www.tetonwyo.org/1856/Deed-Restriction-Templates .

☐ I have attached a draft of the Standard Restrictions for each unit.

Livability Standards (LDR 6.3.4.D and E) (Rules and Regs Section 2-3). Restricted housing must comply with the Livability Standards in the Jackson/Teton County Housing Department Rules and Regulations. The Livability Standards include amount of cabinetry/counter space, storage, closets, room sizes, appliances, laundry facilities, bathrooms, etc. The Rules and Regulations can be found at this link:
www.tetonwyo.org/1332/Housing-Rules-and-Regulations .

☒ I have reviewed the Livability Standards and understand the requirements. I have/will contact the Housing Department for approval of my units early in the design process to get their approval prior to submitting for building permit.

Method for Providing Required Housing (LDR 6.3.5):

One or a combination of the below methods may be proposed to satisfy your housing requirement. They are listed in the order of preference/priority. Highest priority must be used unless it is demonstrated that a higher priority is impracticable (LDR 6.3.5.C)

1. Construction of new units either on-site or off-site (LDR 6.3.5.D.1).
2. Conveyance of land for affordable/workforce housing (LDR 6.3.5.D.2).
3. Utilization of a banked affordable or workforce housing unit (LDR 6.3.5.D.3).
4. Restriction of an existing residential units as an affordable/workforce housing unit (LDR 6.3.5.D.4).
5. Payment of an in-lieu fee (LDR 6.3.5.D.5).

☒ I have attached a detailed explanation of my proposed method of providing Required Housing.

Phasing Plan (LDR 6.3.5.A.3). Restricted Housing Units shall be ready for occupancy no later than the free market portion of the development is occupied. If the free market portion is to be developed in phases, then the Restricted Housing Units shall be developed prior to or in proportion to the free market portion.

☒ I have attached a detailed description of my phasing plan as it pertains to Affordable/Workforce units.

Development of a new house, hotel, or commercial space generates the need for employees. The construction workforce builds the space, the commercial workforce or residential service workforce works in the space, and first responders are needed to protect the space. Only about 27% of the employees generated by development can afford housing in the community, but the community's "community first" character goal is that 65% of employees live locally. To bridge this affordability gap, each development is required to include affordable workforce housing proportional to the employees it generates.

These housing mitigation requirements are established in Division 6.3 of the Land Development Regulations. This worksheet is intended to assist in meeting the requirements for a project. However, an error in the worksheet does not amend the actual standard; if you find an error please notify the Planning Department. Fill in the highlighted cells, all the other cells will autopopulate.

Calculating the Requirement (Sec. 6.3.2 & 6.3.3)

Step 1: Location Town of Jackson

The applicable regulations vary by jurisdiction please identify the location of your project using the above dropdown options.

The required housing is based on the existing and proposed use of the site. Step 2 is to enter the existing use and Step 3 is to enter the proposed use. Section 6.3.2 of the LDRs establishes the applicability of the affordable workforce housing standards and Section 6.3.3 establishes the specifics on calculation of the requirement. Enter each use in its own row, add rows if needed. If a building has multiple units with the same use, describe each unit in its own row. (For example: if a duplex is composed of a 2,300 sf attached unit and a 1,700 sf attached unit, put each unit in its own row do not put in 4,000 sf of attached single-family.) If a unit type (e.g. apartment floor plan, or commercial tennant space) is replicated exactly multiple times, you may use the "Use Quantity" column to avoid adding multiple rows.

Step 2: Existing Development

Housing is only required for new development. Please describe the existing use of the site so that it can be credited from the housing requirement. The definition of existing use is Section 6.3.2.A.1 of the LDRs. Generally, the existing use to enter is the use with the highest housing requirement that either existed in 1995, or has been permitted since 1995. Please attach proof of existence.

Existing Use (Sec. 6.3.2.A)	Housing Requirement (Sec. 6.3.3.A)	Use Size: bedrooms	Use Size: habitable sf	Use Quantity	Housing Credit
Conventional Lodging	0.102*bedrooms	1	0	25	2.554
Office	0.000247*sf		21094	1	5.204
Retail	0.000216*sf		2500	1	0.539
Outfitter/Tour Operator			1500	1	1.440
Heavy Retail/Service	0.000123*sf		3000	1	0.369
Detached Single-Family Unit (Unrestricted)	0.000017*sf+(Exp(-15.49+1.59*Ln(sf)))/2.176		1528	2	0.072
Existing Workforce Housing Credit					10.177

Step 3: Proposed Development

Please describe the proposed use of the site to determine if affordable workforce housing is required as part of the development. Describe the end result of the proposed development. (For example: in the case of an addition do not enter the square footage of the addition, enter the size of the unit upon completion of the addition.)

Proposed Use	Housing Requirement (Sec. 6.3.3.A)	Use Size: bedrooms	Use Size: habitable sf	Use Quantity	Housing Required
Conventional Lodging	0.102*bedrooms	1	0	171	17.467
Restaurant/Bar	0.000599*sf		2000	1	1.197
Retail	0.000216*sf		2497	1	0.539
Restaurant/Bar	0.000599*sf		720	1	0.431

Affordable Workforce Housing Required: 9.457 units Fee-in-Lieu Amount: n/a

If the amount of required affordable workforce housing is less than one unit, you may pay the above fee in-lieu of providing the required housing. If you elect to pay the fee, your Housing Mitigation Plan is complete. If the requirement is greater than one unit, or you would like to provide a unit to meet the requirement, please proceed to the [Unit Type Sheet](#).

Type of Units Required (Sec. 6.3.4)

Step 4: Type of Units Required

The LDRs include a schedule for how many units have to be affordable to each income range and how many units have to have 1, 2, or 3 bedrooms. The LDRs also allow for adjustment, subject to approval by the Housing Director. To propose an adjusted allocation, change the values in the gold cells; the customized allocation must meet the customization rules provided. If a rule is violated, the cell will turn red. See also Section 6.3.4 of the LDRs.

Affordability	LDR Schedule	Proposed	Custom %	Customization Rules
Units Affordable to Households making 50% Median Income	3.000	3.000	32%	Custom % shall be ≥ 25%
Units Affordable to Households making 80% Median Income	1.000	1.000	11%	Custom % shall be ≥ 19%
Units Affordable to Households making 120% Median Income	4.457	4.457	47%	Custom % shall be < 43%
Workforce Units	1.000	1.000	11%	Custom % shall be < 13%
Total	9.457	9.457	Proposed total shall be ≥ Required	

Bedroom Mix	1 Bed/Studio	2 Bedroom	3 Bedroom	Total Units	Total Employees Housed	Customization Rule
LDR Schedule	4.000	4.457	1.000	9.457	17.022	The Proposed total shall be greater than or equal to the Schedule total
Proposed Allocation	4.000	4.457	1.000	9.457	16.814	
Employees per Unit per LDRs	1.45	2.00	2.10	1.80		

Step 5: Distribution of Affordability by Unit Size

The bedroom mix must be proportionally distributed among the affordability mix. If you modify the distribution (gold cells) the totals must match your allocation totals (they will turn red if they do not). A customized distribution should be within 1 (rounded up or down) of the even distribution displayed (it will turn red if it is not). See also Section 6.3.4 of the LDRs.

Requirement Distribution					Even Distribution		
	1 Bed/Studio	2 Bedroom	3 Bedroom	Total	1 Bed/Studio	2 Bedroom	3 Bedroom
Affordable to 50% Median Income	2.000	1.000	0.000	3.000	1.286	1.286	0.429
Affordable to 80% Median Income	0.000	1.000	0.000	1.000	0.429	0.429	0.143
Affordable to 120% Median Income	2.000	2.457	0.000	4.457	1.910	1.910	0.637
Workforce Restriction	0.000	0.000	1.000	1.000	0.429	0.429	0.143
Total	4.000	4.457	1.000				

Once you have determined the proposed distribution please fill out the [Method Sheet](#) regarding how the required housing will be provided.

CONSTRUCTION MANAGEMENT PLAN

Summary

NORTH CACHE HOTEL & CONDOMINIUMS

1. Construction of a hotel & condominium building. The property is also intended to include retail with a restaurant, café, spa and bar.
2. The proposed schedule will be finalized once the Project has proceeded through the necessary entitlement approvals with the Town of Jackson.
3. The right-of-way easement work is scheduled to be 30-day duration and the anticipated start date will be determined further in the design and approval process.
4. Public Impact Notice, Construction Parking, Site logistics, temporary use of streets, alleys and public property will be addressed in the permit application.
5. Stormwater Prevention Plan will likely include sandbags around all storm drain and detention areas. Rough grading will also be completed to drain storm water to the controlled detention areas. Mogul Capital plans to work with the TOJ to construct a detailed Stormwater Prevention Plan.
6. Site Plan will be provided when plans are submitted to the city. Construction Management Plan will be negotiated with the TOJ and will show the proposed work, temporary facilities, barriers, pedestrian routes, haul routes, and adjacent streets with sidewalks.
7. As of now, the intent is to setup a crane as needed on site. Current plans would include the need for two cranes, but that may change through the process. A Crane Agreement will be provided if cranes are to be erected on Town's property. A Crane Swing Agreement is for cranes that encroach into the airspace above Town right-of-way or easements. The agreement will be provided prior to crane erection. We understand there will be additional insurance required for this scope.
8. We understand the criteria's needed for protection of pedestrians: barriers to be no less than 6' in height, barriers will be placed on the side of the walkway nearest the construction, barriers will extend full length of the construction site, openings in such barriers will be protected by gates/doors that are normally kept closed and it will not interfere with Town Snow Removal Operations. We will be in compliant with Barrier and Covered Walkway Criteria.
9. All Stabilized construction access will be maintained.
10. Traffic Control plans will be submitted with permit applications if any traffic control is necessary.
11. Shoring Plans will be provided with grading permit application.

DETAILED LITERATURE

Construction Management Plan: Lots 1-12, 15-18 Block 3 J.R. Jones Addition Plat No 113

Project Scope:

The North Cache project consists of a hotel and condominium structure with underground parking. Once a permit is in place we intend to clear and grub the lot, relocate utilities and begin with shoring and the underground parking garage. The project will be built onsite and a more detailed scope will be provided through the process. Once we break ground we anticipate the project duration to be less than 36 months.

Public Impact:

Owner/Contractor will coordinate with Town of Jackson (TOJ) to develop a distribution list of neighbors that may be affected by construction activities, including the TOJ Engineering Division. Shaw will work to minimize any effect on adjacent properties by maintaining proactive communication including giving a minimum 48-hour notice of any closures and after-hours work. Owner/Contractor acknowledges that the right-of-way (R.O.W.) is a shared public use area and will coordinate with TOJ and neighbors for special event planning and construction activities that will encroach on the R.O.W.. Along US-191, pedestrian traffic will be controlled with temporary signage at street, intersections and property boundaries.

Site Logistics & General Staging Plan:

Site logistics will be included in the submission package. The staging area will house contractor's job office trailer, material laydown, dumpsters, temporary toilets, and construction worker parking. Construction work hours, unless by special exception, will be Monday-Friday 7AM-7PM and 8AM-5PM during weekends and holidays.

Site Fencing & Access:

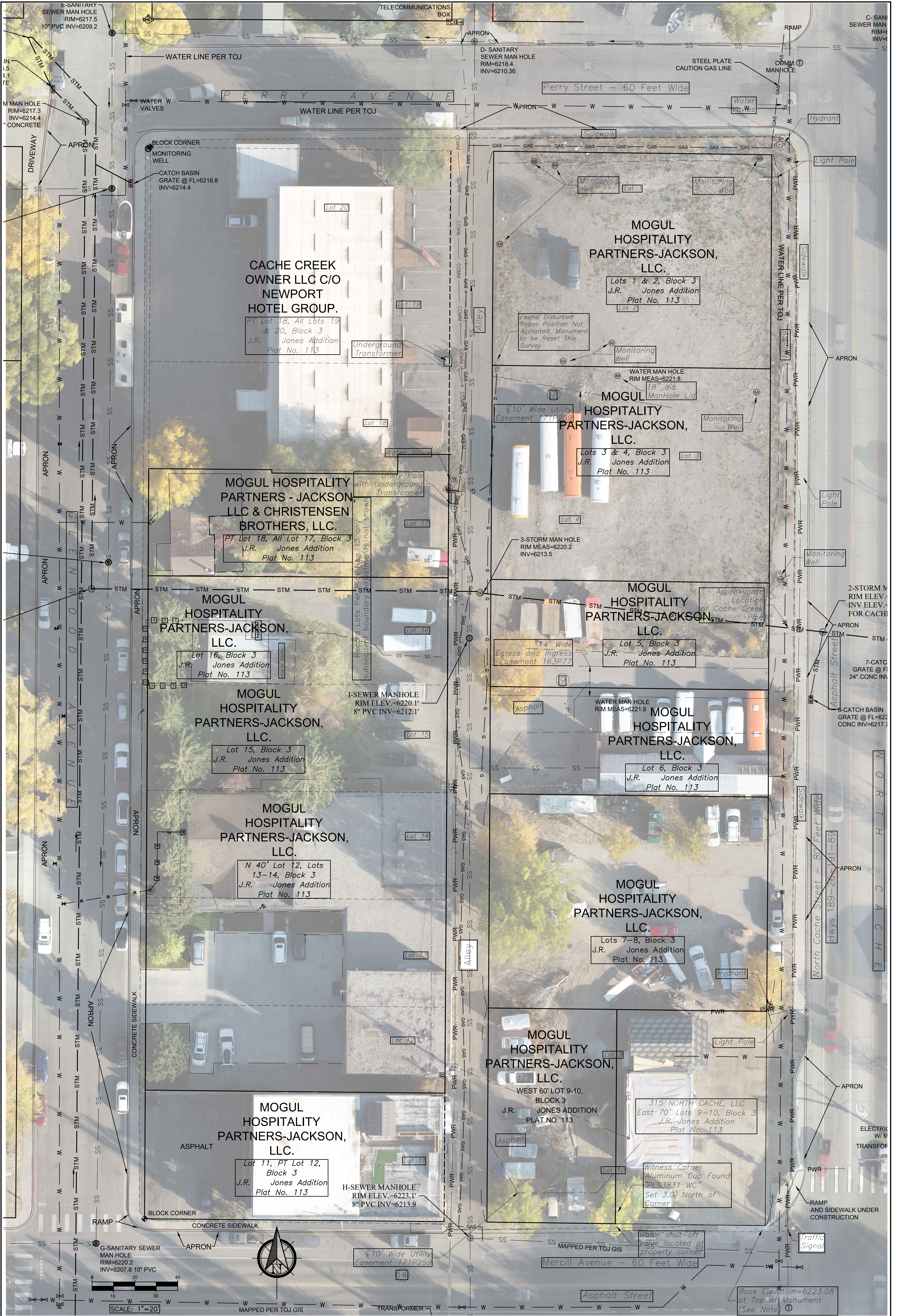
The entire site will be surrounded by temporary metal construction fence with fabric screen. The fence will be placed at the back of sidewalk on the plan north boundaries of the property, near the property line on all four sides. Vehicle gate in the fence will be placed at main entrance into the property on the Glenwood Ave side and be utilize for delivery trucks to pull-through to laydown area. Vehicle gate will include vehicle tracking control pads and a skid steer with sweeper attachment will remain on site to maintain clean roads.

Parking, Street, & Alley Encroachments:

It is anticipated that site logistics will require minimal portions of the adjacent street lanes and sidewalk MAY be occupied by construction equipment or staging at different times during the project. Contractor will follow the temporary use criteria for the use of public property.

Stormwater Management:

All erosion control measures and BMPs will be implemented per plan as developed by the civil engineer, including inlet protection and perimeter controls. All stormwater will be contained to the site with no runoff or outfalls. Vehicle tracking control mats will be installed and maintained at all vehicle access points. Temporary toilets will be properly bedded and staked. Gas, diesel, and oils will be stored in proper containment vessels. Shoring: Shoring will not be required during Phase 1, but will be required for Phase 2 excavation. Details of shoring for Phase 2 will be included on a Phase 2 construction management and staging plan. Method of shoring will be determined following finalization of new foundation's structural design. If soil nails or any other method requiring encroachment into Town's right of way is proposed, then an encroachment agreement will be applied for well in advance of excavation.



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Group

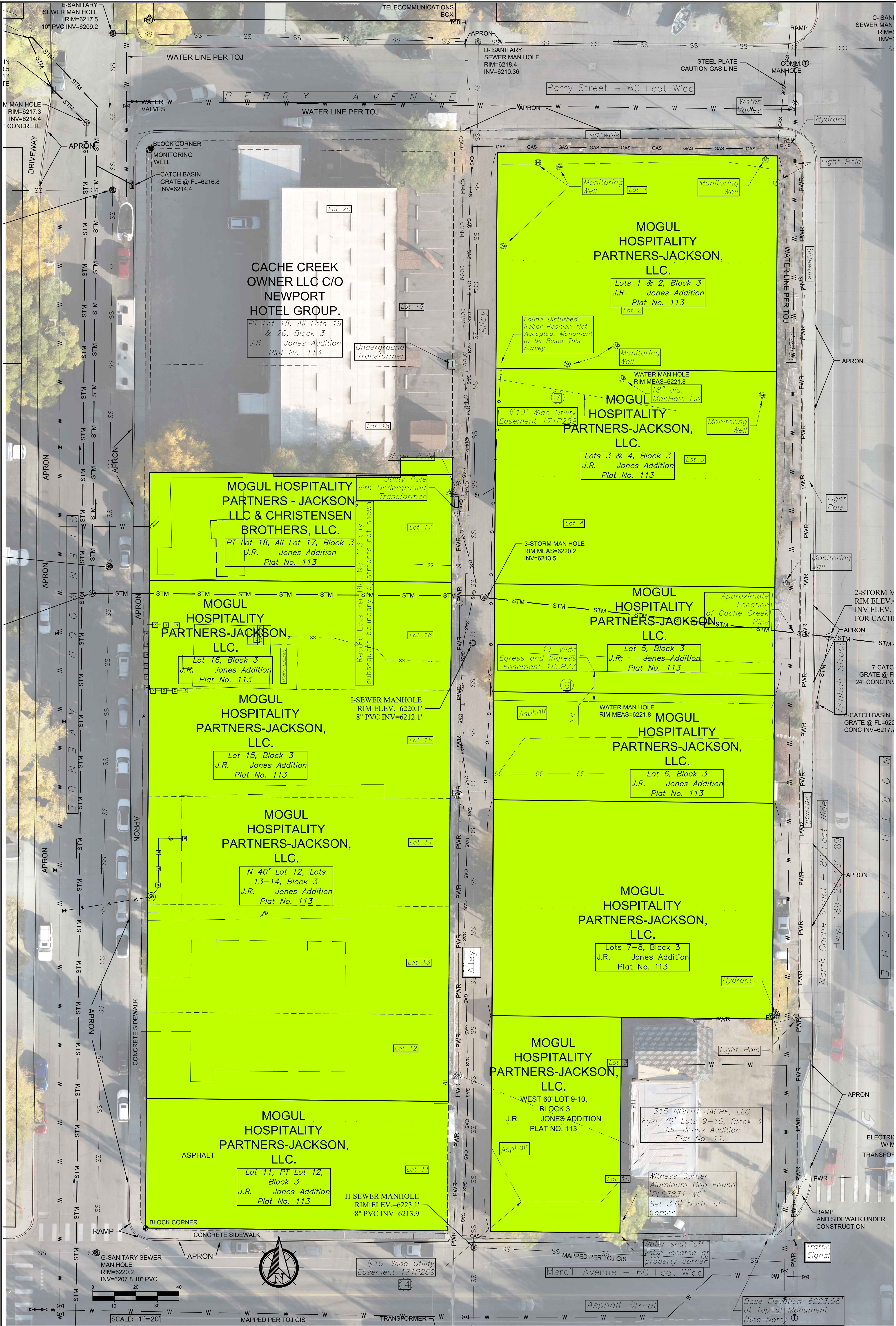
Civil + Geotechnical Engineering,
Geology, Groundwater,
and Construction Administration
2100 Wilson Road • P.O. Box 6482
Jackson, WY 83001 • Jackson, WY 83002
307.413.4399 • www.scgengineering.com

PROJECT TITLE:
JACKSON MIXED USE
DEVELOPMENT
MOGUL HOSPITALITY PARTNERS
TOWN OF JACKSON, WY

DRAWING TITLE:
EXISTING CONDITIONS
SITE PLAN

[REV.]	[DESCRIPTION:]	[BY:]	[DATE:]
A		RS	

SCALE:
1" = 20'
[24"x36" SHEET]
SHEET NO.
C1



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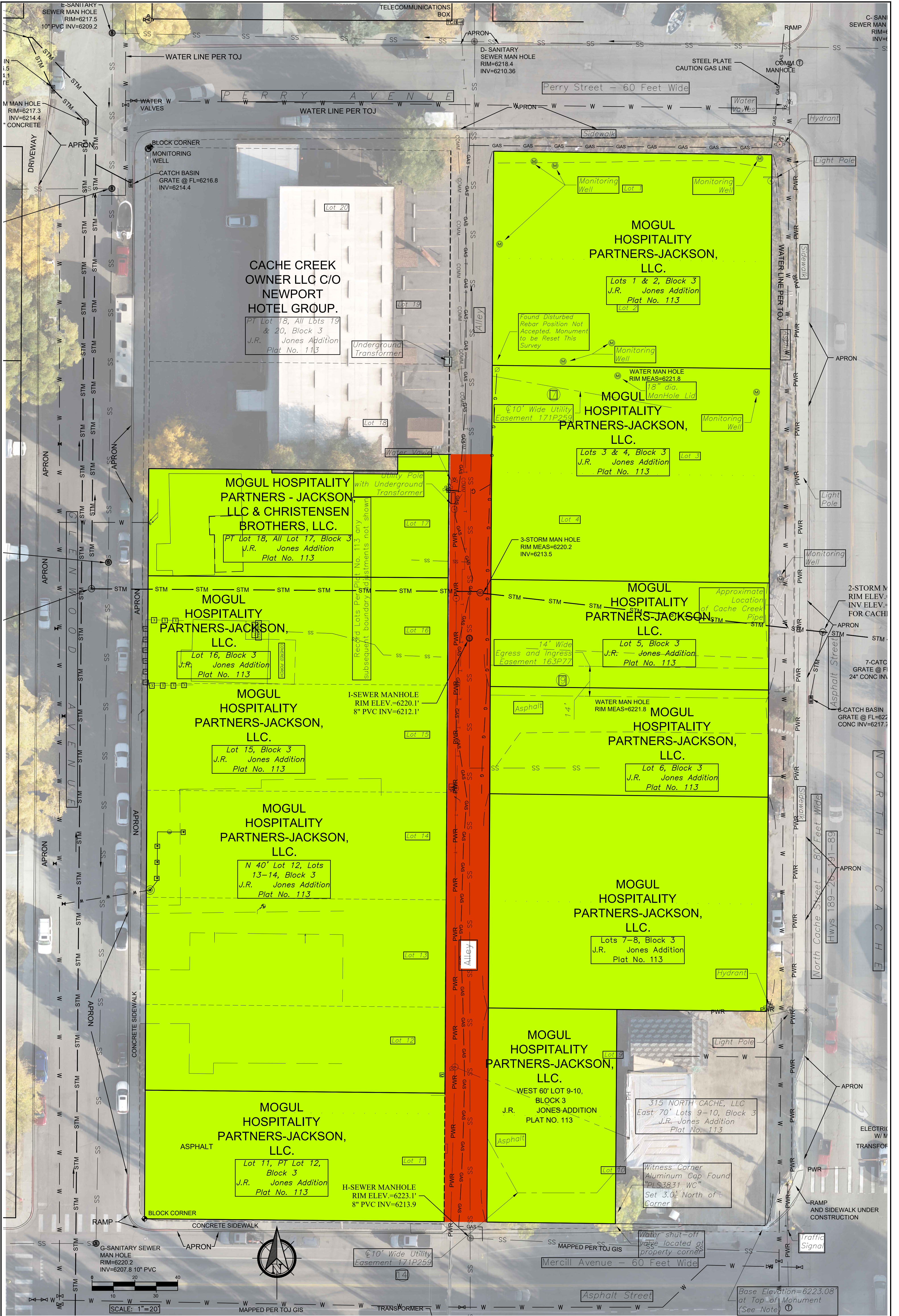
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PROJECT TITLE:
JACKSON MIXED USE
DEVELOPMENT
MOGUL HOSPITALITY PARTNERS
TOWN OF JACKSON, WY

DRAWING TITLE:
MOGUL HOSPITALITY
OWNERSHIP MAP

REV	DESCRIPTION	BY	DATE
A	ISSUED FOR PERMIT	RS	1/24/21

SCALE:
1" = 20'
SHEET NO.
C2



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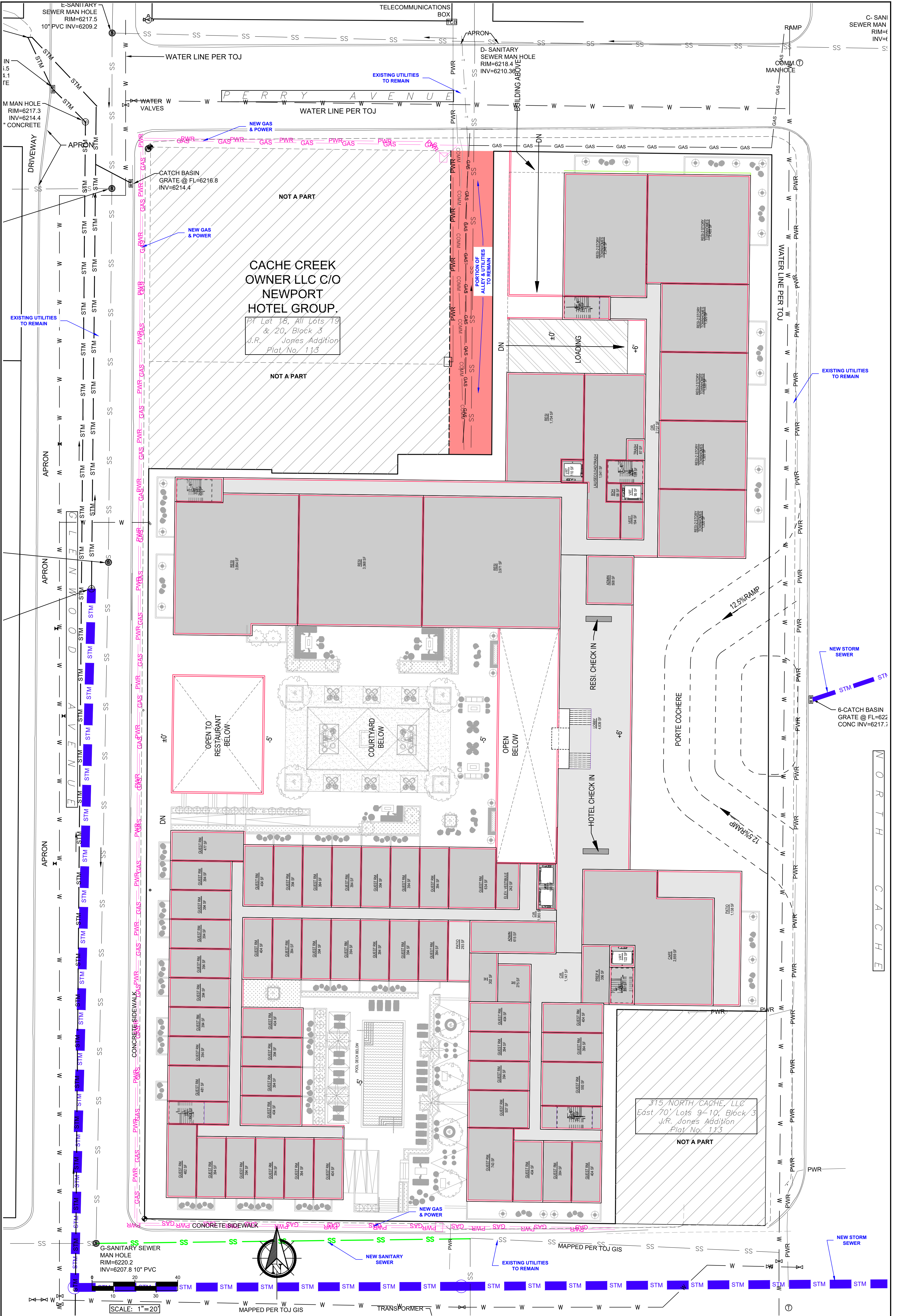
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PROJECT TITLE:
JACKSON MIXED USE
DEVELOPMENT
MOGUL HOSPITALITY PARTNERS
TOWN OF JACKSON, WY

DRAWING TITLE:
MOGUL HOSPITALITY
OWNERSHIP MAP
W/ ALLEY VACATION

REV	DESCRIPTION	BY	DATE
A	ISSUED FOR PERMIT	RS	1/24/21

SCALE	SHEET NO.
1" = 20'	C3



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PROJECT TITLE:
JACKSON MIXED USE
DEVELOPMENT
MOGUL HOSPITALITY PARTNERS
TOWN OF JACKSON, WY

DRAWING TITLE:
MOGUL HOSPITALITY
PROPOSED SITE PLAN

[REV.]	[DESCRIPTION:]	[BY:]	[DATE:]
A	Revised	RS	1/24/21

[SCALE:]	[SHEET NO.]
1" = 20'	C5



Mark Gordon
Governor

WYOMING Department of Transportation

"Provide a safe and effective transportation system"

3200 Elk Street, Rock Springs, Wyoming 82901



Darin J. Westby, P.E.
Director

January 22, 2024

Brad Wagstaff
Mogul Capital, LLC
376 Gateway Dr.
Heber City, UT 84032
Via email: bradw@mogulcapital.com

Re: Access Committee Review
US 89, MP 154.8 LT

Dear Mr. Wagstaff,

I am in receipt of the access appeal decision and letter dated January 19, 2024 from the Access Review Committee. The proposed access at Milepost 154.8 LT was allowed as a right-in/right-out only access. Please provide updated detailed plans at your earliest convenience for the proposed 'pork chop' island.

If the above Access Review Committee decision is not acceptable to you, you have the right to request, in writing, a contested case hearing before the State of Wyoming Office of Administrative Hearings. To request a contested case hearing, contact WYDOT District Engineer John Eddins, in writing, at 3200 Elk Street, Rock Springs, WY, 82901, within 30 days of receipt of this letter.

You may also appeal this decision through an informal hearing before the Wyoming Transportation Commission. To request an informal hearing before the Commission, please contact Ms. Caitlin Casner, Transportation Commission Secretary, in writing, at 5300 Bishop Boulevard, Cheyenne, WY, 82009-3340, within 30 days of receipt of this letter.

The outcome of either hearing is final, and no other appeals are available.

If you have any other questions or concerns, please contact me at 307-352-3000.

Sincerely,

Darin D. Kaufman, P.E., PTOE
District 3 Traffic Engineer

Attachment(s): January 19, 2024 Access Review Committee Letter

cc: File
Joel Meena, P.E., WYDOT State Traffic Engineer, Cheyenne, WY
Caitlin Casner, Secretary, Wyoming Transportation Commission, Cheyenne, WY
Matt Carlson, P.E. WYDOT State Highway Safety Engineer, Cheyenne, WY
Kevin Lebeda, WYDOT Lands Management Administrator, Cheyenne, WY
Tom DeHoff, P.E. WYDOT Assistant Chief Engineer for Operations, Cheyenne, WY
John Eddins, District Engineer, WYDOT, Rock Springs, WY
Kurt Covert, Area Maintenance Supervisor, WYDOT, Pinedale, WY
Troy Jerup, Maintenance Foreman, WYDOT, Jackson, WY
Tara Finley, Traffic Technician, WYDOT, Rock Springs, WY
Jordi Berrett, Hales Engineering, via email: jordi@halesengineering.com



Mark Gordon
Governor

WYOMING Department of Transportation

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5300 Bishop Boulevard, Cheyenne, Wyoming 82009-3340



Darin J. Westby, P.E.
Director

January 19, 2024

Darin Kaufman, P.E.
WYDOT District 3 Traffic Engineer
3200 Elk Street
Rock Springs, WY 82902

RE: Access Appeal – US 89, MP 154.8

Dear Mr. Kaufman,

On January 19, 2024 the WYDOT Access Review Committee voted to determine the status of a new commercial access request from Mogul Capital in Jackson, Wyoming for a new hotel and residences. A spacing violation was the reason for the district denial. The committee decided (2-1) to allow the new commercial access with limited movements. The applicant must provide the district with an engineering drawing for your approval concerning the approach islands.

Please call me at (307) 777-4374 if you would like to further discuss this matter and thanks for attending the meeting.

Sincerely,

Joel Meena, P. E.
State Traffic Engineer

cc: Caitlan Casner, Secretary of the Wyoming Transportation Commission
Matt Carlson, P. E., State Highway Safety Engineer
Kevin Lebeda, Lands Management Administrator
Tom DeHoff, P.E., Assistant Chief Engineer Operations

Workflow Notes

Permit Number	Begin Date	Step Type	Text	Created By	End Date
P24-002		BUILDING DEPARTMENT COMMENTS	The structures must meet the most current adopted codes of the Town of Jackson at the time of permitting.		
P24-002		DETERMINATION OF SUFFICIENCY	This letter is to confirm that on January 16, 2024, your application for a Sketch Plan at the above-referenced properties determined insufficient by the Planning Department for the following reasons: 1.The Housing Mitigation section needs more details specifically on the housing credits. The applicant is responsible for demonstrating the housing credits for each property which means a supplemental narrative needs to be provided explaining what credits exist for each property. For example, the housing calculator states that 3,000 sf of Heavy Retail/Service credits exist, but nowhere does it state which property those credits belong to and what existing or historical business/use is associated with Heavy Retail/Service use. Please provide a list of each property, the size of the building(s), and/or associated uses so that credits can be properly reviewed and confirmed by staff. Please note that housing credits are based on the highest intense use that existed on or after December 18, 1995. Also, please clarify how the 32,878 sf of off-site Workforce restricted housing will be distributed at the Loop. Staff needs a breakdown of the number and type of units to be restricted. 2.Although Sketch Plan is conceptual, 2D elevations are required. 2D elevations need to show height measurements along with callouts of the proposed exterior materials. 3.Please provide a full LDR Compliance Checklist for this project against the standards in the CR-2 zoning district. 4.WYDOT approval is needed to take access from North Cache. Please resubmit the Sketch Plan after WYDOT has decided on this matter and provide written confirmation of their decision. The LDRs require that all insufficiency items be addressed within 60 days of notice of insufficiency, which in this case 60 days from January 16, 2024. Upon resubmittal, please provide the entire application packet along with a transmittal letter stating how each insufficiency item has been satisfied. In addition, please provide any supplemental information necessary to satisfy the insufficiency.		
			SKETCH PLAN - Completed P24-002Sketch Plan Review ADDRESS:335 N Cache Street OWNER:Mogul Hospitality Partners Jackson, LLC APPLICANT:Owner 2/29/2024 Brian Lenz, Scott Mohror (307) 733-3079 DATE OF SUBMITTAL: 1/3/2024		

Workflow Notes

Permit Number	Begin Date	Step Type	Text	Created By	End Date
P24-002		ENGINEERING DEPARTMENT COMMENTS	DATE OF MATERIALS: 12/29/2023 REVISION NO.: 00 The Engineering Division has reviewed your application for a SKETCH PLAN submitted on and with application materials as dated above. *The following comments are being provided for use in preparation of future applications and are required for sufficiency. PROJECT SPECIFIC COMMENTS Concept Design Plans 1.Verify the correct on-street parking proposed. Sheet 5 indicates 28 street parking and there are 27 shown throughout the plans. 2.For the number of parking spaces proposed on Level B2 parking, seven ADA spaces are required, not the six that is noted. 3.Provide elevator information pertaining to the type proposed. Not all elevators require a sump. If the proposed elevators require sump pumps, the sump pumps will be required to discharge to a sand/oil separator prior to entering ToJ collection system. 4.Provide a sand/oil separator for the parking garage and elevators if applicable. 5.Proposed kitchens will require a grease interceptor (GI) prior to discharging into ToJs wastewater collection system. 6.The sidewalk next to the porte cochere exceeds ADA access route and/or ADA ramp running slope. Provide a plan and profile of the porte cochere showing slopes for the driving lanes and sidewalk. 7.Provide plan and profile sheets of the proposed curb and gutter with sidewalk grades on each street including the porte cohere. The design team needs to design the building to meet the public right-of-way requirements, not the public right-of-way to meet the building design. 8.Public right-of-way requirements include a maximum 2% slope from back of curb to the property line. PROJECT REVIEW COMMENTS 9.Provide the documentation WYDOT approved the porte cache entrance off N Cache Street. 10.Any utility and landscaping permits on N Cache Street will require the Town of Jackson to help with the application process for M54 and M21 access permits. 11.Refer to review comments from the pre-application sketch plan dated October 23, 2023. Project specific along with ToJ Code comments are all applicable and will need to be addressed. PARKING REQUIREMENTS AND DETAILS 12.Verify the number of additional street parking spaces available. Documents and plans conflict with the number available.		

Workflow Notes

Permit Number	Begin Date	Step Type	Text	Created By	End Date
			13.Verify the number of ADA parking spaces for the garage. For the number of spaces proposed, seven ADA spaces would be required. Show on the plans with appropriate dimensions. CONSTRUCTION MANAGEMENT PLAN 14.Item 7 discusses the intent of having a crane and/or crane swing agreements. All agreements needed will require Town Council approval. 15.Item 11 discusses shoring plans along with the Stormwater Management paragraph. Depending on the type of shoring needed, a shoring encroachment agreement may be required which will require Town Council approval. 16.Under site fencing and access, address wintertime fence placement and snow removal that complies with our Construction Management Plan checklist. The checklist can be found on our website. CIVIL SHEETS 17.Existing Conditions Site Plan on sheet C1 shows many monitoring wells on property. Provide proper abandonment details and language for WYDEQ approval. 18.Refer to Alley vacation review comments and update map shown on sheet C3 if applicable. 19.The Proposed Site Plan on sheet C5 shows new power going to a vault on others property. All proposed utilities such as telephone, cable TV, electric, fiber, gas, shall be installed underground. 20.Provide right-of-way or easements as required. Show that private utilities can be located on private properties, e.g. transformers. 21.Provide an access manhole on the existing sanitary sewer located in the partially vacated alley if applicable. Refer to alley vacation comments. 22.Show the fire line and domestic water service including backflow prevention and meter to the mechanical room. Existing water on N Cache Street is an 8 PVC main and a 6 ductile iron main on Perry Avenue. 23.The proposed reroute of the stormwater pipe will definitely have obstacles to consider. Horizontal and vertical clearances in relationship to the water main and sanitary sewer at the intersection of Mercill Avenue and Glenwood Street will need to meet WYDEQ and ToJ standards. 24.Existing stormwater inlets and junction boxes will need to be evaluated for integrity and adequate size for proposed stormwater pipe. Structures may be required to be replaced. 25.Provide plan and profile sheet(s) for stormwater route proposed. Identify conflicts with other utilities on the profiles. 26.The intersection of the vacated alley and Mercill Avenue will require an access manhole for the sanitary sewer. 27.See Concept Design Plan reviews for the porte cache for providing plan and profile sheet(s).		

Workflow Notes

Permit Number	Begin Date	Step Type	Text	Created By	End Date
P24-002		FIRE DEPARTMENT COMMENTS	Project must meet the requirements of the current International Fire Code (IFC) including but not limited to the following. 1.) Owner or owner's agent shall provide a written site safety plan to this department establishing a fire prevention program at the project site applicable throughout all phases of construction. 2.) A stamped set of automatic sprinkler plans shall be submitted for review and approval by this office prior to any work being done. Inspections and testing shall be scheduled with this office. 3.) A stamped set of fire alarm plans shall be submitted for review and approval by this office prior to any work being done. Inspections and testing shall be scheduled with this office. 4.) Project will meet requirements of the IFC, Chapter 5 including fire department access, premises identification, key boxes, and emergency responder communication systems. 5.) Provide specifications for all elevator type(s) and that they meet requirements of the IFC, Section 604. 6.) Commercial cooking equipment and systems will meet the requirements of the IFC, Section 606. Provide specifications for system to this office for review and approval. Inspections and testing shall be scheduled with this office. 7.) Means of egress shall meet all applicable requirements of the IFC, Chapter 10 including posting occupant load in assembly occupancies, number of exits/egress travel distance, illumination, emergency illumination, exit signs (including low-level exit signs),		
			The applicant is requesting approval of a Sketch Plan for the development of an over 330,000sf mixed-use commercial and residential development along North Cache Street at the gateway to Town. Proposed development generates housing mitigation requirements and uses the Workforce Housing Floor Area Bonus. Affordable Workforce Housing Standards: The applicant finds that 18.332 housing credit units consistent with on-site buildings in existence in the past can be applied to the proposed development. The applicant also calculates that 167 one-bedroom lodging units generate a 34.117-unit housing mitigation requirement, leaving 15.785 housing units to be mitigated after consideration of credits. It appears that the applicant used an outdated Housing Mitigation Calculator dated 6/11/19 whereas the most recent version is dated 1/8/21. Correction of this oversight potentially reduces the housing mitigation calculation by nearly half, or down to 7.861 units, using the applicants existing and proposed development values. Housing Credits must be verified. The Town of Jackson Land Development Regulations (LDRs) state that, The burden of identifying the existing building or use shall be the responsibility of the landowner. The landowner shall provide the Planning Director photos, permits, licenses, records, or other documentation that establishes the existing building or use. Although more information is provided in the applicants resubmittal package, it does not appear that comprehensive materials, like business licenses and records, are included to verify these uses and floor areas. All proposed floor area must be accounted for. The Step 3: Proposed Development section of the Towns Housing Mitigation Calculator should include all 339,239sf of proposed floor area, not just the conventional lodging rooms. The drop-down Proposed Use fields include categories like Workforce Housing Bonus Unit and Circulation or Nonhabitable Space for this reason. Portions of the proposed building are described as spa, retail, meeting rooms, and restaurants, etc. These		

Workflow Notes

Permit Number	Begin Date	Step Type	Text	Created By	End Date
P24-002		JOINT HOUSING DEPARTMENT	uses appear to be accessible to the public and do not clearly meet an exemption or the circulation area definition of LDR Division 6.3 Affordable Workforce Housing Standards. Sec. 6.3.2.C. Exemptions speaks to Accessory Uses specified in LDR Sec. 6.1.11, but a restaurant, for example, is not an Accessory use listed here. Sec. 6.3.3.A.6 clarifies that, Common hallways, entryways, stairways, and other circulation areas in buildings with multiple residential or nonresidential units, that are not within any individual unit, shall not be included in the calculation. While this may cover the lobby, hallways and entryways of the hotel, a restaurant does not meet the definitional standard for shared circulation and may actually be more relevant to the Restaurant/Bar or Retail standards for the amount of employees generated to operate that use. The Town Planning Department is responsible for assessing applicable LDR standards related to the amount of housing mitigation obligation from employee generating development, so the above LDR references are only highlighted to assist Planning Staff in making a determination. Based on the points above, a determination may require additional information from the applicant. Housing Staff take responsibility for ensuring that the required housing mitigation amount is satisfied through acceptable methods and follows long-term compliance requirements. This application proposes that the remainder of the housing mitigation required, after consideration of on-site housing credits, be satisfied via off-site construction of the required affordable workforce housing at The Loop apartment complex. Meets Type of Affordable Workforce Housing Required. LDR Sec. 6.3.4 prescribes a schedule for affordability allocation and size allocation to the number of required mitigation units, which is also populated in the Method sheet of the Housing Mitigation Calculator. The proposed affordability and size allocation on page 68 of the application is consistent with requirements, even though a <50% MFI studio is swapped out for a <50% MFI two-bedroom, and an 80-120% MFI two-bedroom is swapped out for an 80-120% MFI studio. Each required Affordable or Workforce housing unit shall also include, at a minimum, the components of livability required by the Housing Department Rules and Regulations. Housing Department review of Building Permit application B23-0292 for the West Building of The Loop confirmed that submitted plans meet Livability Standards. Meets Method for Providing Required Affordable Workforce Housing. The highest priority method for meeting required mitigation is by on-site or off-site construction of housing units, which is the method this application proposes. The standards applicable to off-site construction method apply here: i. Each required affordable or workforce housing unit constructed shall receive a certificate of occupancy prior to the granting of the applicable certificate of occupancy or use permit for the employee generating development. Conditioned. ii. The application to construct the affordable workforce housing shall be sufficient in order for an application for a building permit or use permit for employee generating development to be determined sufficient. B23-0292 was found sufficient and is in review. iii. The approval process for the employee generating development shall occur concurrent with the approval process of the required affordable workforce housing development. Review and approval process of The Loop development contemplated inclusion of mitigation units required by this		

Workflow Notes

Permit Number	Begin Date	Step Type	Text	Created By	End Date
		COMMENTS	Sketch Plan. Workforce Housing Floor Area Bonus: This Sketch Plan also proposes using the Workforce Floor Area Bonus to access additional floor area above the zone-specified FAR. The applicant appears to offer 32,878sf (40 units) of off-site deed restricted Workforce housing at The Loop apartments in exchange for 98,634sf of unrestricted residential floor area on site. It is not clear how these values meet the 2:1 unrestricted to restricted floor area ratio required by LDR Sec. 7.8.4. Perhaps the 98,634sf value listed in the scale of development calculations is inclusive of the 32,878sf of restricted off-site floor area, but quick adding of floor plan square footage coded residential in sheets 10 and 11 of the application drawings indicate that well over 65,756sf of residential floor area is located on site, throwing off this 2:1 ratio requirement. A determination of compliance from the Planning Department may require additional information from the applicant. Process & Conditions of Approval: The following conditions of approval are recommended by the Housing Department to be included upon approval of the Sketch Plan. 1.Prior to the granting of the applicable certificate of occupancy or use permit for the employee generating development, each required affordable or workforce housing unit constructed shall receive a certificate of occupancy. 2.Required components of livability. Restricted housing units shall include, at a minimum, the components of Livability Standards required by Sec. 3-3 of the Housing Department Rules and Regulations. Prior to issuance of Certificate of Occupancy, the Housing Department shall inspect the site to ensure restricted units were built to approved Livability Standards. 3.Deed Restriction. To ensure continued compliance with the standards of the Town of Jackson Land Development Regulations and the Housing Department Rules & Regulations, required affordable or workforce housing units shall be subject to a deed restriction, in perpetuity, in a form established and approved by the Housing Department. If units are located off-site from the employee-generating development, a Housing Mitigation Agreement may also be required for recordation on the employee-generating site for tracking purposes. Prior to issuance of Certificate of Occupancy, a special restriction drafted by the Housing Department using the applicable approved Restriction Template will be recorded on the unit/property. The applicant will be responsible for payment of recording fees. the leasing agent/realtor/property manager or person managing residents shall attend a Compliance Conference with the Housing Department to learn how Workforce and Affordable households are qualified for residency in restricted units. Thank you for the opportunity to review this Sketch Plan. Please contact me with any questions.		

Workflow Notes

Permit Number	Begin Date	Step Type	Text	Created By	End Date
P24-002		PLANNING DEPARTMENT COMMENTS	Please see staff report for draft conditions of approval which are subject to change.		
	01/16/2024	POLICE DEPARTMENT COMMENTS		TVALENTINE@JACKSONWY.GOV	02/09/2024
	02/23/2024	START DEPARTMENT COMMENTS		KSLUDER@JACKSONWY.GOV	02/23/2024
	02/29/2024	PC KEY ISSUES		SMOHROR@JACKSONWY.GOV	
	03/01/2024	LEGAL DEPARTMENT COMMENTS		LPOTZ@JACKSONWY.GOV	03/01/2024
	03/18/2024	FINAL REPORT		KMALONE@JACKSONWY.GOV	03/18/2024
	03/19/2024	FINAL LETTER		TVALENTINE@JACKSONWY.GOV	03/19/2024
		PLANNING COMMISSION REVIEW AND RECOMMENDATION			
		PARKS AND RECREATION DEPARTMENT COMMENTS			
		INITIAL REPORT			
		TC PUBLIC NOTICE			
		PC ROUGH DRAFT			
		TOWN COUNCIL MEETING			
		PC FINAL DRAFT			
		COMPLETENESS REVIEW			
		COMPLETE REPORT			
		PATHWAYS DEPARTMENT COMMENTS			

Workflow Notes

Permit Number	Begin Date	Step Type	Text	Created By	End Date
		PC PUBLIC NOTICE			

Town Of Jackson
Planning and Building
Jackson, Wy. 83001

Linda Roice Box 739
Jackson, Wy. 83001

I do not believe you people need to continue to destroy our town. We do not need any more large Corporations destroying our town and you allowing it.

I say NO to the 366,000 square foot hotel on North Cache Street. No to any more four story buildings. No to 1,437 homes in South Park.

We would have enough housing if you quit allowing all these Short term housing rentals.

We do not want to be one of these communist country Fifteen minute cities.

If you have not noticed we are America!

Our infrastructure is maxed out. The roads can't handle anymore, the water, sewer, and the likes can't handle anymore. We are the riches county in Wyoming and you can't even keep our roads up to a descent standard, without pot holes big enough to ruin a cars suspension.

Just stop, you are destroying our home town and it is all out of greed.

Enough is Enough!!!!.

A Very Concerned Native Of Jackson Wyoming,

Linda Roice

From: Mark Sullivan <mark@mdslawoffice.com>
Sent: Friday, March 22, 2024 1:54 PM
To: Tyler Valentine
Subject: FW: Mogul Capital Partners Hotel -- Ally Vacation Request

Mr. Valentine:

I write on behalf of my client Cache Creek Owner LLC, owners of the Cache Creek Motel located at 390 N. Glenwood. I write to express my client's continuing concerns about Mogul Capital Partners' proposed hotel located at Cache and Perry Streets.

The focus of concern remains access to the Cache Creek Motel property. As I have previously expressed, my clients are opposed to the vacation of the alley that connects Perry Street to Mercill, which my clients and their guests use to access their property.

Now, with Mogul's sketch plan submission, the extent to which the proposed ally vacation would impair my clients' access is clear. First, the sketch plan appears to show the elimination of the Cache Creek Motel parking area on the easternmost portion of their property. This would obviously be unacceptable to my clients, and a violation of their property rights, and thus I presume that is merely a lack of precision in the sketch plans.

Even assuming my client's parking area would not be encroached upon by Mogul, the sketch plan makes it clear that it will no longer be functional. Mogul has sought what they term a partial vacation of the alley. But their plans would, in effect, fully vacate the alley. Their plans show a loading dock where the alley would end, essentially condemning the remaining northern portion of the alley, adjacent to the Cache Creek Motel property, for Mogul's private use as a loading area. This loading area would have to serve a nearly 400,000 square foot hotel, with a restaurant and retail spaces. It is not difficult to imagine nearly continuous loading activity to serve a commercial facility of this size, severely hampering guest access to the Cache Creek Motel. This is an obvious public safety issue, not to mention a severe imposition upon my client in terms of noise and congestion.

More to the point, the ally may not be vacated under Wyoming law absent the consent and approval of all of the landowners with interests in the original plat that created it. That includes my clients.

Plat 113, the Jones Addition, subdivided the property into lots and created the ally in question in 1925. That plat very clearly states that the alley is dedicated to public use, stating in a hand-written notation:

“And that the Streets and alleys are hereby donated to the public user in fee simple as needed and as the lots are sold.”

Wyoming Statute 34-12-106 governs vacation of plats, and requires the consent of all owners of lots in such plat. My client does not consent to the vacation of the alley.

In Carnahan v. Lewis, 273 P.3d 1065 (Wyo. 2012), the Wyoming Supreme Court affirmed that a property owner may not unilaterally vacate a dedicated public roadway to serve its own purposes. The Court in that matter stated:

“This Court has established the principle that, once a road becomes a public road, the public has a vested right to use it, and it "cannot be vacated . . . without compliance with the appropriate statutes." Sare v. Sheridan County Bd. of County Comm'rs, 784 P.2d 593, 595 (Wyo. 1989), quoting Sheridan County v. Spiro, 697 P.2d 290, 303 (Wyo. 1985) and citing Bd. of County Comm'rs, Carbon County v. White, 547 P.2d 1195 (Wyo. 1976). There is no question from the language contained in the original plat that the owner intended to dedicate Mountain View Loop for public use. Consequently, the Griffiths could not vacate it without following the statutory procedures. They did not follow those procedures; therefore, the attempt to vacate Mountain View Loop was not effective.”

The “statutory procedures” that the Court required the applicant to follow in order to vacate the road in question in Carnahan, were to file an affidavit, signed by **all** owners of the plat, as required by W.S. 34-12-106. Because not all owners had joined in that affidavit (and the Plaintiffs opposed it), the attempt to vacate the road was ineffective and voided by the court.

Here, the language of Plat 113 clearly dedicates the ally to public use (and to the use of the other owners in the plat, such as my client). The road cannot be vacated without meeting the requirements of W.S. 34-12-106, which, at this time, Mogul Capital Partners cannot meet.

My client remains opposed to the “partial” vacation of the alley and asks that the Town reject Mogul Capital Partners’ application to do so.

Kindly confirm receipt of this email, so that I may know that our concerns will be included in the forthcoming staff report.

Sincerely,

Mark Sullivan

5237 HHR Ranch Road

Wilson, WY 83014

(307) 733-2021

June 15, 2017

Rachel Lambert
Vice President of Construction
Mogul Capital
210 E. Main Street, Suite 109
Midway, UT 84049

via e-mail

RE: JH Boutique Hotel Report - Phase 1 Groundwater Work –
Permeability testing for the proposed improvements at
315-375 North Cache Street
Jackson, Wyoming

Dear Rachel:

Thank you for the opportunity to provide this report summarizing the work performed per the “Proposal for JH Boutique Hotel – Phase 1 Groundwater Work” dated March 13, 2017. This report summarizes the Site background and proposed development, the conceptual work plan, the field work performed, the analysis and results, conclusions, and recommendations. In summary, a two-story subterranean parking garage will require a substantial construction and permanent dewatering system that will be able to pump thousands of gallons of water per minute. Gravel lenses present within the upper floodplain of Flat Creek and swamp deposits will likely increase the required rate of construction dewatering. Due to the existing contamination at the northern end of the site, water testing and treatment will likely be required; however, remediation of the contaminated area may reduce the likelihood of testing and treatment. A shallower excavation will greatly reduce the construction dewatering (and testing and treatment) requirements.

Site Background and Proposed Development

The project location (the Site) is at 315-375 North Cache Street in the Town of Jackson (the Town) in the state of Wyoming, the site map from Teton Geotechnical is included as Figure 1. JCO understands that a multi-floor hotel along with two-story subterranean parking garage is proposed on the Site. According to the “Geologic Investigation Report for the JH Mogul Hotel, Jackson, Wyoming” prepared by Teton Geotechnical, the Site soils consist of 10 to 25 feet of fine-grained floodplain and swamp deposits overlying a dense sandy cobble and gravel alluvium. The hotel structural system will utilize a deep foundation bearing system within the underlying sandy cobble and gravel alluvium. At the time of this report, detailed construction plans were not available.

Historically, groundwater has been present at depths less than 10-feet below existing grade at the Site, with Teton Geotechnical reporting water levels as shallow as 2-3 feet below grade. The direction of groundwater flow is generally from southeast to west and northwest toward Flat Creek. Due to high groundwater at the Site and the desired subterranean levels of the proposed hotel, a rigorous construction dewatering plan is required. In the future, a permanent dewatering plan may be required for the completed structure.

Previously, the Site contained two fueling stations in two different locations. At the south end of the Site (315 North Cache Street), according to Wyoming Department of Environmental Conservation (WYDEQ), Aspen Service was responsible for a leaking underground storage tank (Facility Number 0-003255); according to WYDEQ the site was resolved on 8/24/2015. At the north end of the Site (375 North Cache Street), according to WYDEQ, there is an active “Storage Tank Program Contaminated Site”; the Facility Number is 0-003426 formerly known as Teton Texaco. The groundwater at the Teton Texaco site remains contaminated above actions levels for Benzene and Total Petroleum Hydrocarbons. The contaminant plume appears to end at the southern property line of the Teton Texaco site as shown in Figure 2.

JCO understands that, in the fall of 2016, an attempt was made to perform a pumping test in order to determine the permeability of the upper silty clay layer. Eventually, this attempt was abandoned due to the expense and efforts associated with characterizing and disposal of the potentially contaminated water during testing and construction. The Town representatives have stated that they do not want untreated groundwater from drilling or dewatering operations to enter the Town storm sewer because the groundwater may be contaminated from the former fueling station releases.

In April 2017, Teton Geotechnical installed six piezometer wells (used for measuring groundwater level) throughout the site. The report, “Geologic Investigation Report for the JH Mogul Hotel, Jackson, Wyoming” is dated May 30, 2017 and includes the borehole logs for these piezometers wells as well the geologic logs from other reports prepared for the Site. In summary, the Site consists of 10 to 25 feet of silt and clay floodplain and swamp deposits with overlapping and interfingering gravel deposits overlying sandy cobble and gravel alluvium with gravels overlapping and interfingering. The thickest floodplain and swamp deposits are located at the northern portion of the Site. Teton Geotechnical prepared cross-sections that are included as Figure 3.

Conceptual Plan

The current conceptual plan is to capture the groundwater during construction dewatering operations, verify that the water is below the action level for Benzene and Total Petroleum Hydrocarbons, if it is not below the action level then treat the groundwater, and either inject the water into the underlying alluvial aquifer or discharge the water to a surficial location (e.g. storm sewer).

Phase 1 of this conceptual plan was to determine the permeability of the upper fine-grained floodplain and swamp deposits soil layer by performing slug tests in existing on-Site monitoring wells; estimate the rate of water that will likely be produced during construction dewatering, discuss the potential of contaminant plume movement due to dewatering, and assess the feasibility of underground injection to the underlying sandy cobble and gravel alluvium aquifer.

Phase 2 of the conceptual plan will be to perform any additional investigation that may be required to design, and permit the construction dewatering system. The efforts of Phase 2 will be dictated by the results of Phase 1. The design will include working with all parties involved to determine the most feasible and cost-effective design taking into account the ability to pump water from the excavation, the availability of discharge locations (either underground injection or surficial), the need for water treatment, architectural plans, structural limitations, long-term dewatering considerations, contamination mitigation, etc.

Phase 3 of this conceptual plan will be to implement and operate the construction dewatering system.

This report addresses Phase 1 only.

Description of Field Work

Field work was performed between May 8 and May 10, 2017 by a Staff Engineer at The Johnson Company. On May 8, the depth to groundwater was measured in several wells; the measurements are summarized in Table 1. Groundwater elevations can be calculated once the well top of casing elevations are surveyed.

Slug testing was selected as the method for determining the permeability of the upper fine-grained floodplain and swamp deposits soil layer. The test is performed by inducing a sudden change in water level and measuring the response. This slug testing was performed using a mechanical slug consisting of a one inch diameter by two foot long solid plastic cylinder and a pressure transducer. The pressure transducer was placed near the bottom of the well then, the slug was lowered below the groundwater level within the well and the response in water level was measured by the pressure transducer. Once the water level stabilized, the slug was quickly removed from the well and again, the water level response was measured by the pressure transducer.

Slug testing was performed in the following wells: BH-2, BH-3, BH-4, BH-5, MW-021, MW-023, and MW-029. All wells for which slug testing was performed are screened entirely in the upper fine-grained floodplain and swamp deposits. The map of these wells prepared by Teton Geotechnical is included as Figure 3. The borehole logs are included in Attachments B and C.

Slug testing was not performed in BH-6 and BH-7 as the well screens seem to be clogged based upon their initial water levels.

Analysis & Results

The data from the slug testing were analyzed using AQTESOLV, a software package used for the evaluation of data from aquifer testing. The software uses numerical methods to determine the hydraulic conductivity from the groundwater level response data. Two different methods were used in the AQTESOLV analysis: Bouwer and Rice (1976) and Dagan (1978). The key difference in the two analyses is that Dagan (1978) is used for wells screened across the water table; the Bouwer and Rice (1976) is used for fully penetrating screens in both confined and unconfined aquifers. In general for each slug test, two data sets are obtained: falling head (the response of the groundwater level falling after the slug bar is lowered into the water) and rising head (the response of the groundwater level rising after the slug bar is removed). The falling head results were not used in the analysis of wells screened across the water table as the filter pack surrounding the well casing is typically much more permeable than the surrounding soils and provides an unrealistic result. The result of the AQTESOLV analysis is a mean value of hydraulic conductivity of the soils over which the well is screened.

The Site geology is discussed in Teton Geotechnical's report. The report indicates that "there may be overlapping and interfingering of the floodplain and swamp deposits". Some borehole logs indicate coarse-grained material intermixed with the upper floodplain and swamp deposits. For example, BH-3 indicates "heavy grinding" at 13 feet and MW-021 shows "Silty Gravel" from 11.5 to 12.5 feet. Furthermore, Teton Geotechnical's report identifies the floodplain deposits as "Sand, silt, clay, and minor lenses of gravel". While the coarse-grained gravel deposits may be insignificant from a geotechnical standpoint, they can transmit a great deal of groundwater depending on the size and extents of the lenses or layers. The presence of coarse-grained deposits was therefore accounted for in this groundwater analysis.

Several cases were considered in the AQTESOLV analysis. In BH-2 and BH-3 the entire well screen interval was located below the water table; the Bouwer and Rice (1976) method was used, for BH-2 both the falling and rising head data were used and for BH-3 only the rising head data was in the analysis. The geologic log for BH-3 indicates that the entire well is within the fine-grained floodplain and swamp deposits.

In BH-4, BH-5, MW-021, MW-023, and MW-029 the groundwater level was across the screen therefore the Dagan (1978) method was used and only the rising head data were used for analysis. For the initial analyses the aquifer was assumed to be homogeneous. The results are shown in Table 2. The values reported are a mean value of hydraulic conductivity of the soils for which the well is screened within. **The range of hydraulic conductivity values is 1.6 (BH-3) to 48.6 feet per day (MW-023), with a geometric mean value for all wells of 10 feet per day.**

To evaluate the potential impact of gravel lenses within the upper floodplain and swamp deposits, the rising head data from the MW-021 slug test were reanalyzed, treating the “silty gravel” interval from 11.5-12.5 feet as an independent aquifer confined by the fine-grained floodplain and swamp deposits above and below it. This interpretation assumes that the response in groundwater level is driven only by the gravel lens and resulted in a hydraulic conductivity of 120 feet per day, six times as high as the mean value assuming water flow from the entire screened interval. In other words, it appears that the gravel lens present within MW-021 has the potential to convey the vast majority of the water to that well screen; therefore these gravel lenses should be taken into consideration when designing a construction dewatering plan.

A conceptual model was created in order to estimate the rate of steady-state construction dewatering. This model is based on the potentiometric data from the August 2014 (round 22) sampling event performed by URS for the Jackson LAUST report (Attachment D); the geologic cross sections contained in the Teton Geotechnical report; and the hydraulic conductivity results presented in this report. Several assumptions were made in the preparation of this conceptual model; a more in-depth analysis would need to be performed as part of the construction dewatering design once more detailed construction plans are available. This model assumes the excavation will be 500’x130’, encompassing the entire Site. Three scenarios were evaluated: 10-, 15-, and 20-foot excavations. The estimates for construction dewatering are outlined in Table 3. The results of the conceptual model are based on a mean hydraulic conductivity value for the screened interval of 10 feet per day; this accounts for some gravel lenses, however the number and size of gravel lenses can have a significant impact on the required dewatering rates; a factor of safety of at least 2.5 should be applied to these estimated flowrates to account for the gravel deposits. The conceptual model also indicates that the majority of groundwater entering the excavation is conveyed both laterally and vertically by the underlying dense sandy cobble and gravel alluvium; the rate of construction dewatering can be minimized by ensuring that several feet of the fine-grained floodplain and swamp deposits are left undisturbed at the bottom of the excavation. However, this could be particularly difficult in the southern area of the Site where the alluvium is shallower.

Conclusions

Based on JCO’s research, analyses, and experience we have four major conclusions and three recommendations. The conclusions are as follows:

1. Site Geology and Hydraulic Conductivities

The fine-grained floodplain and swamp deposits have a hydraulic conductivity values ranging from 1.6 to 48.6 feet per day, with a geometric mean value for all wells of 10 feet per day. The coarse-grained gravel lenses present within the fine-grained floodplain and swamp deposits convey water at rates an order-of-magnitude higher than the surrounding fine-grained floodplain and swamp deposits. These gravel lenses, if penetrated/bisected could create a significant challenge for construction dewatering.

2. Estimated Construction Dewatering Rate

JCO's conceptual model indicates that the construction dewatering rate could be between 3120 and 3800 gpm for a 20-foot excavation, but those values should be multiplied by a 2.5 safety factor during design in order to account for potential gravel layers that have not been fully delineated.

3. Impact of Construction Dewatering on Existing Benzene Plume

Construction dewatering will create a groundwater sink, drawing groundwater onto the Site in all directions; this will likely draw dissolved contamination in groundwater from the existing benzene plume located at the north end of the Site, a map is included as Figure 3. The construction dewatering efforts as well as the construction of a deep concrete foundation is likely to result in changes to the size and location of the dissolved contaminant plume. Precise predictions of the changes in plume size, shape and movement are not possible without details of the foundation design and permanent dewatering system (if used).

4. Underground Water Reinjection

The feasibility of underground injection of construction dewatering water should be further assessed once a dewatering plan is in place. A brief review of the Wyoming State Engineers' Office records show wells in the area pumping between 76 (St. John's Hospital Well, U.W. 1011) and 950 gallons per minute (1st Enl. Jackson Water Well No. 1, U.W. 104232). The likelihood of being able to inject the construction dewatering water fast enough is high, it is just a matter of the number of wells and method of construction which will be informed by a more detailed dewatering plan.

Recommendations

Based on JCO's research, analyses, and experience we have three recommendations. The recommendations are as follows:

1. Decrease the Depth of Excavation

To reduce the construction dewatering rate, the excavation should not fully penetrate the fine-grained floodplain and swamp deposits as excavating into the underlying dense sandy cobble and gravel alluvium could allow a significant increase in water flow into the excavation. A permanent foundation dewatering plan will likely be required. Simply put, the shallower the subterranean structure, the less dewatering will be required as the potential for penetrating the underlying sandy cobble and gravel layer will be minimized.. This should be carefully evaluated once more detailed construction plans are available.

2. Perform Groundwater Flow and Transport Modeling of Benzene Plume

A detailed groundwater flow and transport model of the Site should be prepared in order to better estimate the construction dewatering rate and simulate the impact that dewatering will have on the benzene plume at the north end of the site. Because of the existing benzene plume, the water



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generated from construction dewatering operations will likely be required to be tested and treated. This should be evaluated in greater detail once construction plans are available and could add an additional expense to the construction cost. If excavation of the northern benzene contaminated area is desired, the soil contamination will have to be addressed. If the contaminated soil is removed, that may reduce the treatment of construction dewatering water.

3. Utilize a Groundwater Barrier

A sheet pile wall or similar impermeable barrier could be utilized to reduce the construction dewatering rate. This could also serve to reduce the concentration of benzene-contaminated groundwater from entering the excavation. Such a barrier could be incorporated into the excavation shoring system and potentially used as part of the structural foundation design.

Disclaimer

This report utilizes the information available from previous studies and reports. JCO is not responsible for errors in those reports utilized in the preparation of this report. At the time of this report, design drawings and construction plans were not available for review and assumptions were made when required.

Sincerely,

THE JOHNSON COMPANY, INC.

By: 
George Lester, P.E.
Staff Scientist/Engineer

K:\3-3081-01\Report\JH Hotel Report_061517.docx

TABLES

Table 1 - 5/8/17 Groundwater Elevation Summary
 JH Boutique Hotel - Phase 1 Groundwater Work
 Jackson, Wyoming

Location ID	Time	Top of Casing Elevation (feet AMSL)	Water Level (feet below TOC)	Total Well Depth (feet below TOC)	Water Elevation (feet AMSL)
BH-2	11:13	--	7.81	18.8	--
BH-3	10:23	--	5.08	17.8	--
BH-4	10:35	--	4.75	11.6	--
BH-5	10:43	--	5.32	15.36	--
BH-6	10:51	--	1.99	16.55	--
BH-7	11:04	--	2.94	37.2	--
MW-021	11:35	6215.98	4.85	12.62	6211.13
MW-023	11:40	6215.17	4.5	12.72	6210.67
MW-029	11:54	6213.95	5.39	12.25	6208.56
MW-509	12:02	--	6.15	12.08	--

Table 2 - Slug Test Analysis Results
JH Boutique Hotel - Phase 1 Groundwater Work
Jackson, Wyoming

Location ID	Test Type	Analysis Method	Hydraulic Conductivity (feet/day)
BH-2	11:13	Bouwer and Rice (1976)	1.6
BH-2	10:23	Bouwer and Rice (1976)	2.6
BH-3	10:35	Bouwer and Rice (1976)	7.1
BH-4	10:43	Dagan (1978)	9.4
BH-5	10:51	Dagan (1978)	20.1
MW-021	11:35	Dagan (1978)	20.9
MW-023	11:40	Dagan (1978)	48.6
MW-029	11:54	Dagan (1978)	19.1

Geometric Mean Value (feet/day): 10

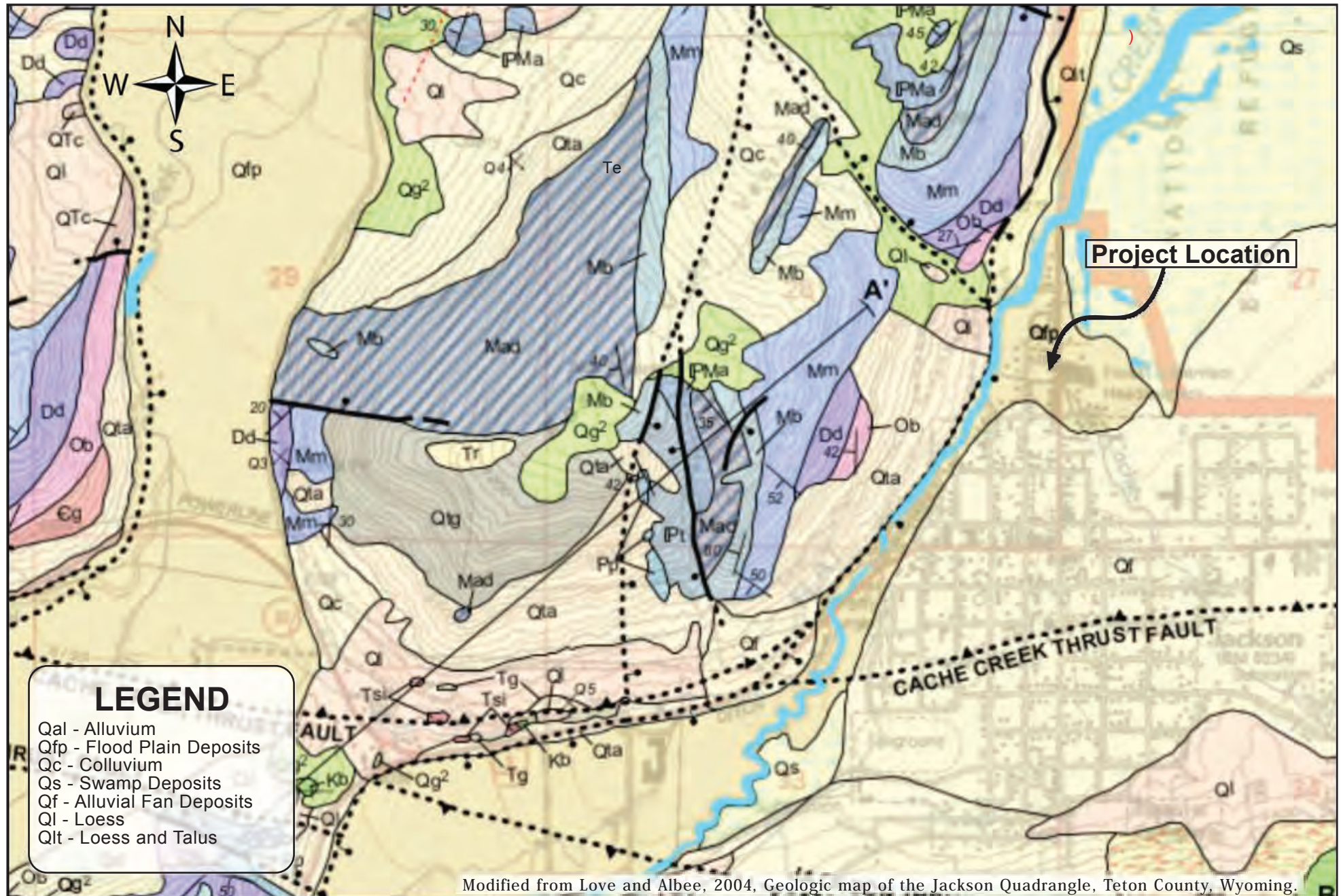
Table 3 - Estimated Rates of Construction Dewatering
 JH Boutique Hotel - Phase 1 Groundwater Work
 Jackson, Wyoming

Excavation Depth (feet)	Lower Limit of Pumping (gpm)¹	Upper Limit of Pumping (gpm)¹
10	560	695
15	1620	2100
20	3120	3800

¹A factor of safety of at least 2.5 should be applied to these estimated pumping rates to account for the gravel deposits within the fine-grained floodplain and swamp deposits.

SELECTED FIGURES

Figure 1 - Site Location Map (from Attachment B)



Geologic Location Map
Geologic Investigation Report
JH Mogul Hotel
Jackson, Wyoming

0 1/4 Mile 1/2 Mile
Scale : 1 inch = 1/4 Mile



FIGURE
1

Figure 2a - Geologic Cross Sections (from Attachment B)

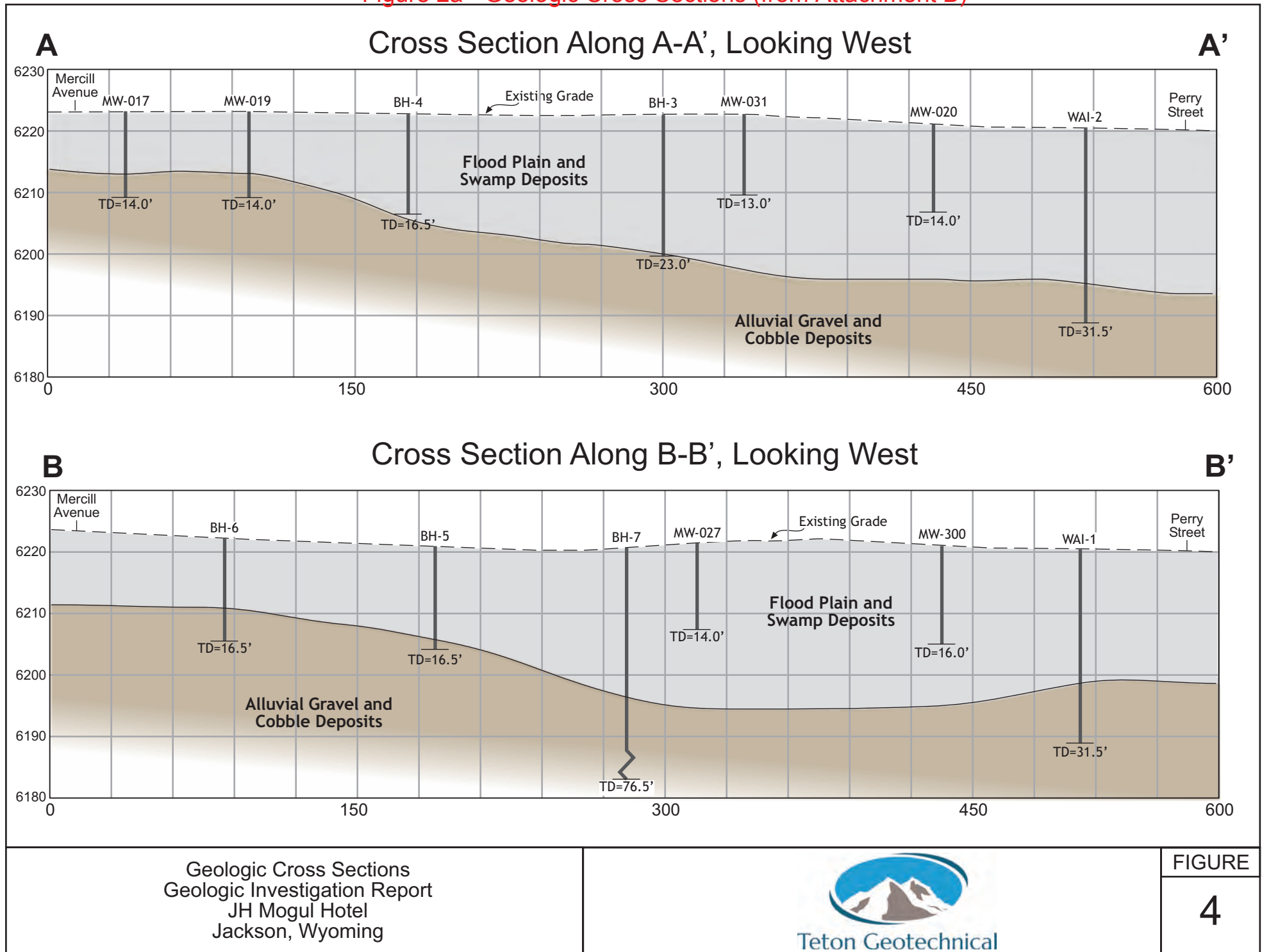


Figure 2b - Geologic Cross Sections (from Attachment B)

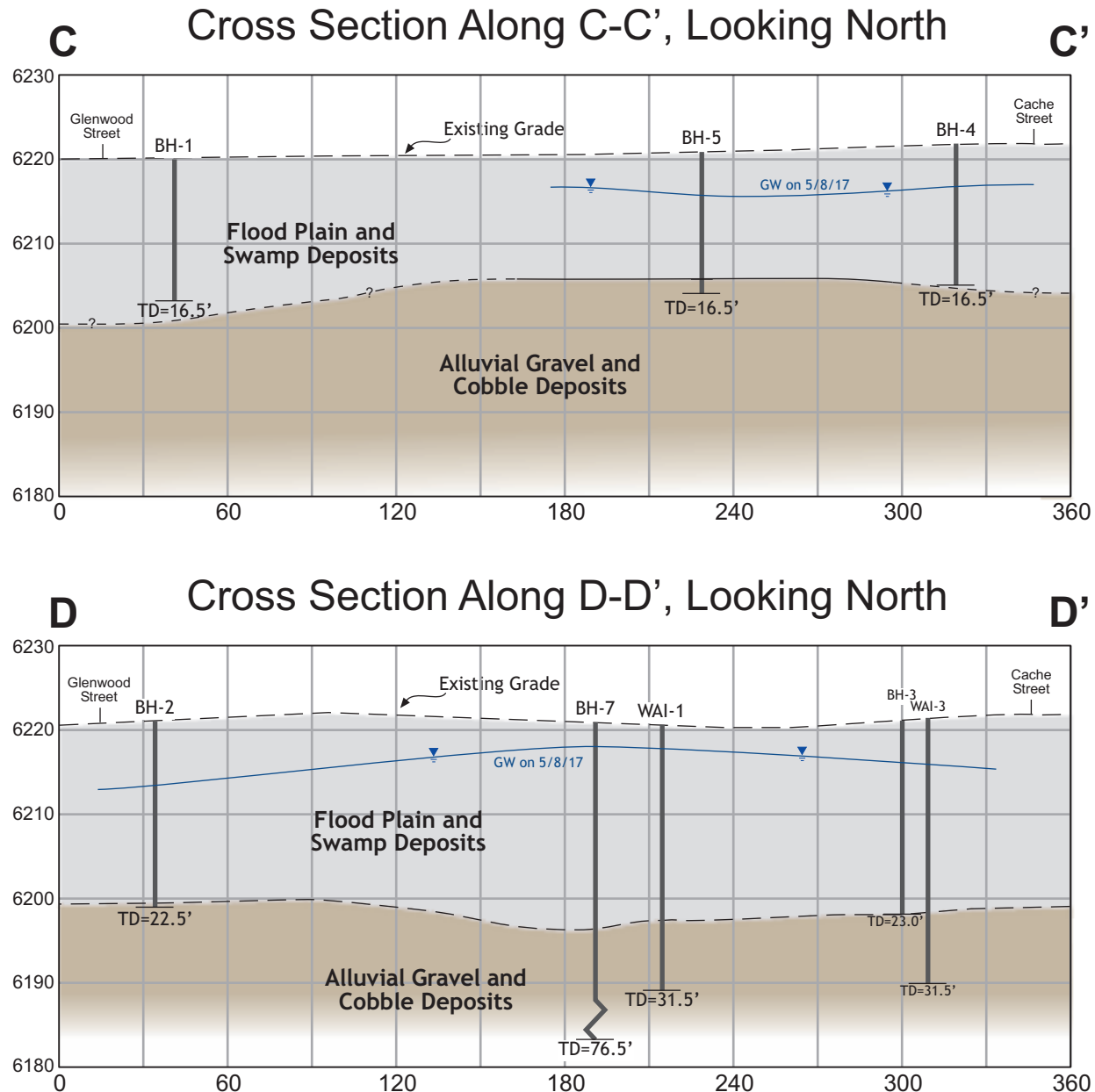
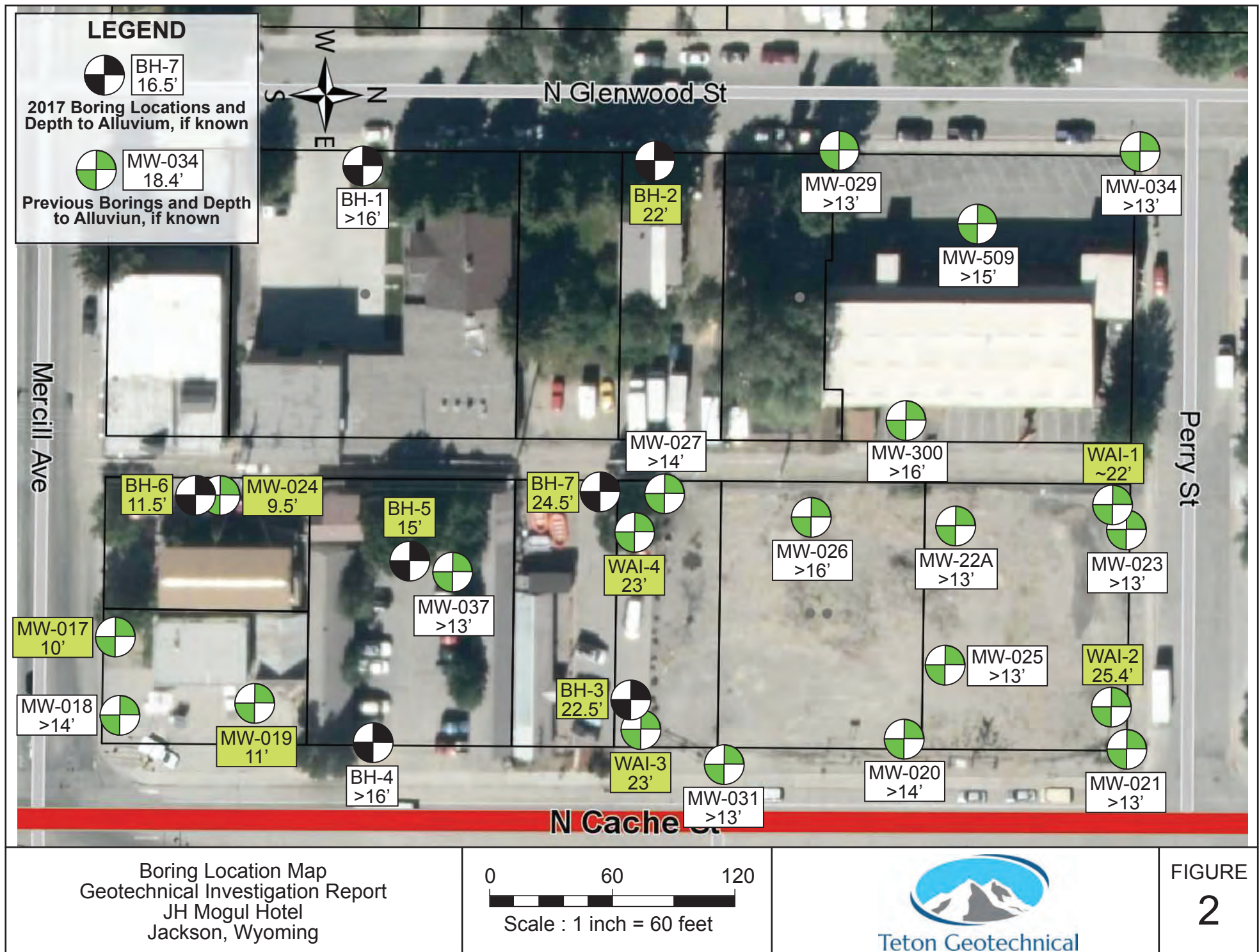


Figure 4 - Boring and Well Location Map (from Attachment B)



Boring Location Map
Geotechnical Investigation Report
JH Mogul Hotel
Jackson, Wyoming

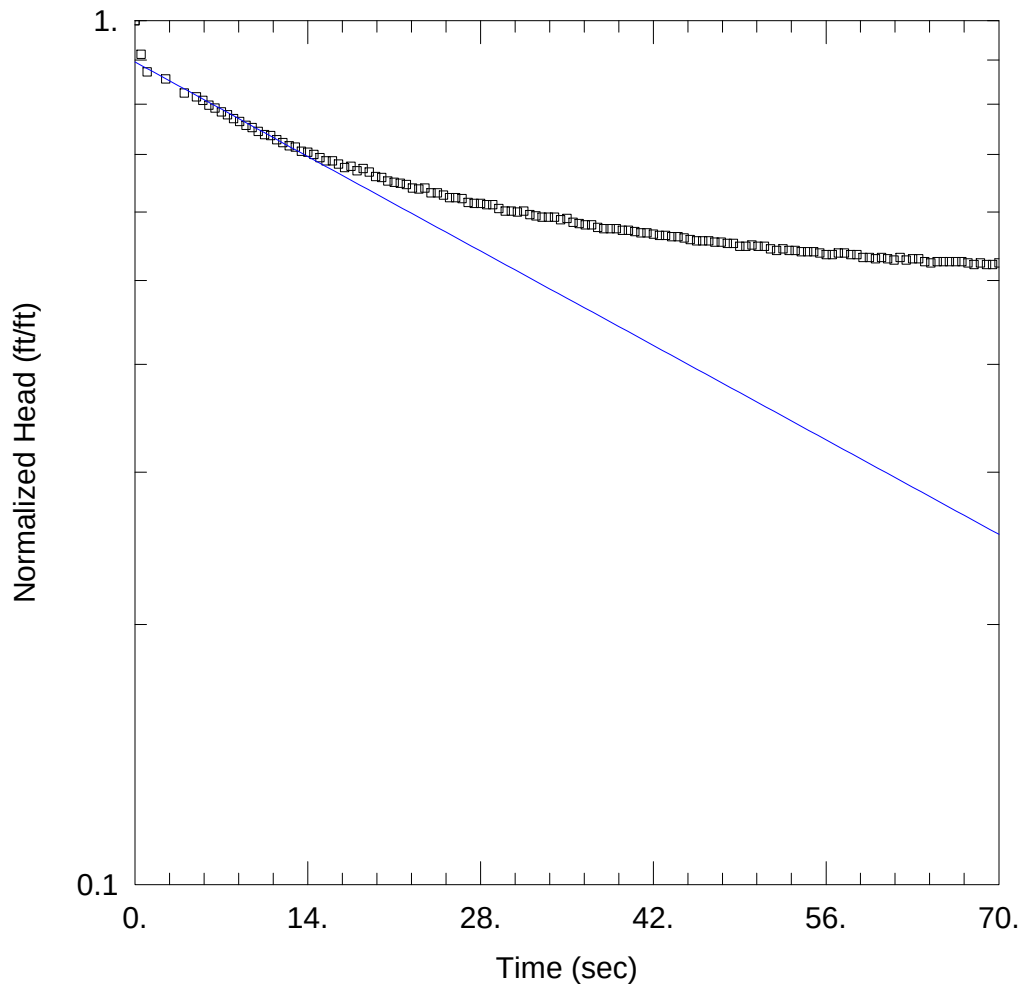
0 60 120
Scale : 1 inch = 60 feet



FIGURE
2

ATTACHMENT A

AQTESOLVE Results



WELL TEST ANALYSIS

Data Set: K:\3-3081-01\Field Work\Data\Aqtesolve\052217 revised evaluation\BH2_falling 052217.aqt
 Date: 06/07/17 Time: 14:34:06

PROJECT INFORMATION

Company: JCO
 Client: Mogul Capital
 Project: 3-3081-01
 Location: Jackson, WY
 Test Well: BH-2
 Test Date: 5/10/17

AQUIFER DATA

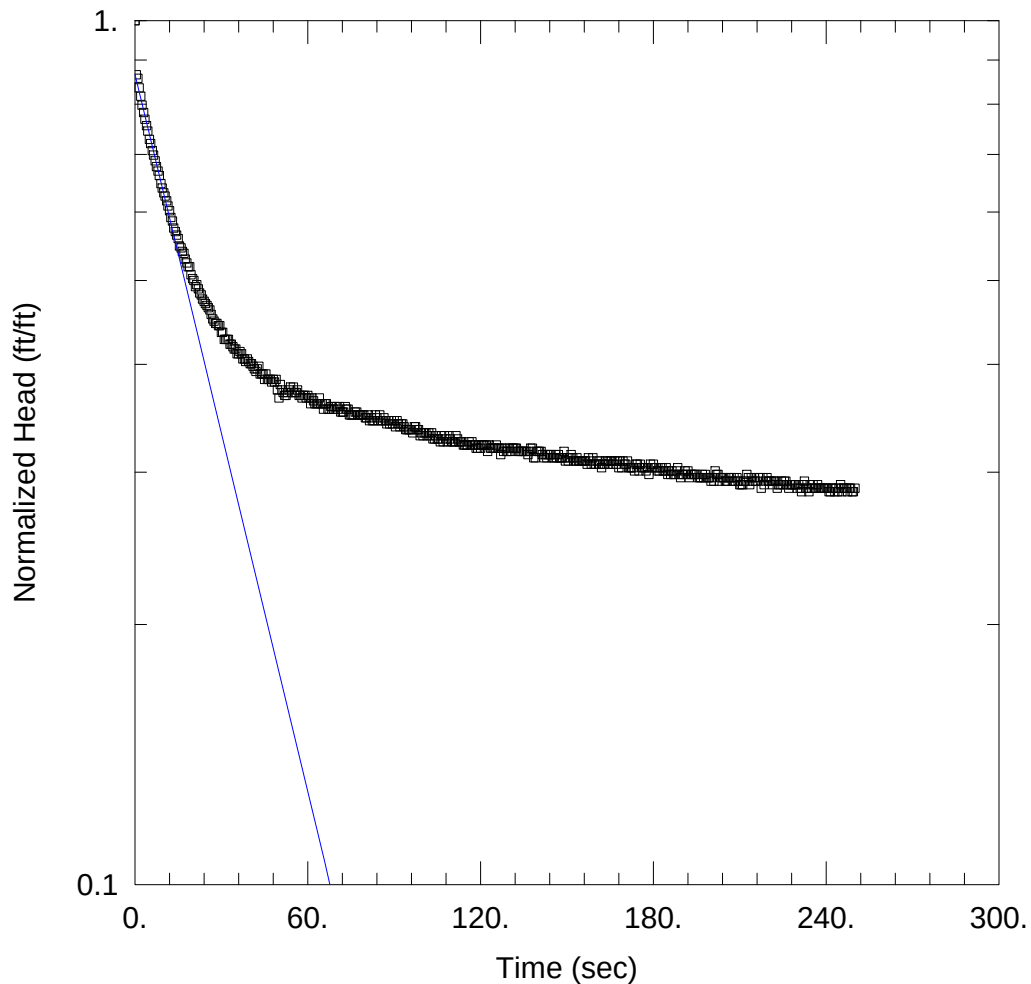
Saturated Thickness: 12.16 ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (BH-2 Falling)

Initial Displacement: 0.5 ft Static Water Column Height: 10.96 ft
 Total Well Penetration Depth: 10.66 ft Screen Length: 10. ft
 Casing Radius: 0.083 ft Well Radius: 0.177 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 $K = 1.547$ ft/day $y_0 = 0.4478$ ft



WELL TEST ANALYSIS

Data Set: K:\3-3081-01\Field Work\Data\Aqtesolve\052217 revised evaluation\BH2_rising 052217.aqt
 Date: 06/07/17 Time: 14:34:47

PROJECT INFORMATION

Company: JCO
 Client: Mogul Capital
 Project: 3-3081-01
 Location: Jackson, WY
 Test Well: BH-2
 Test Date: 5/10/17

AQUIFER DATA

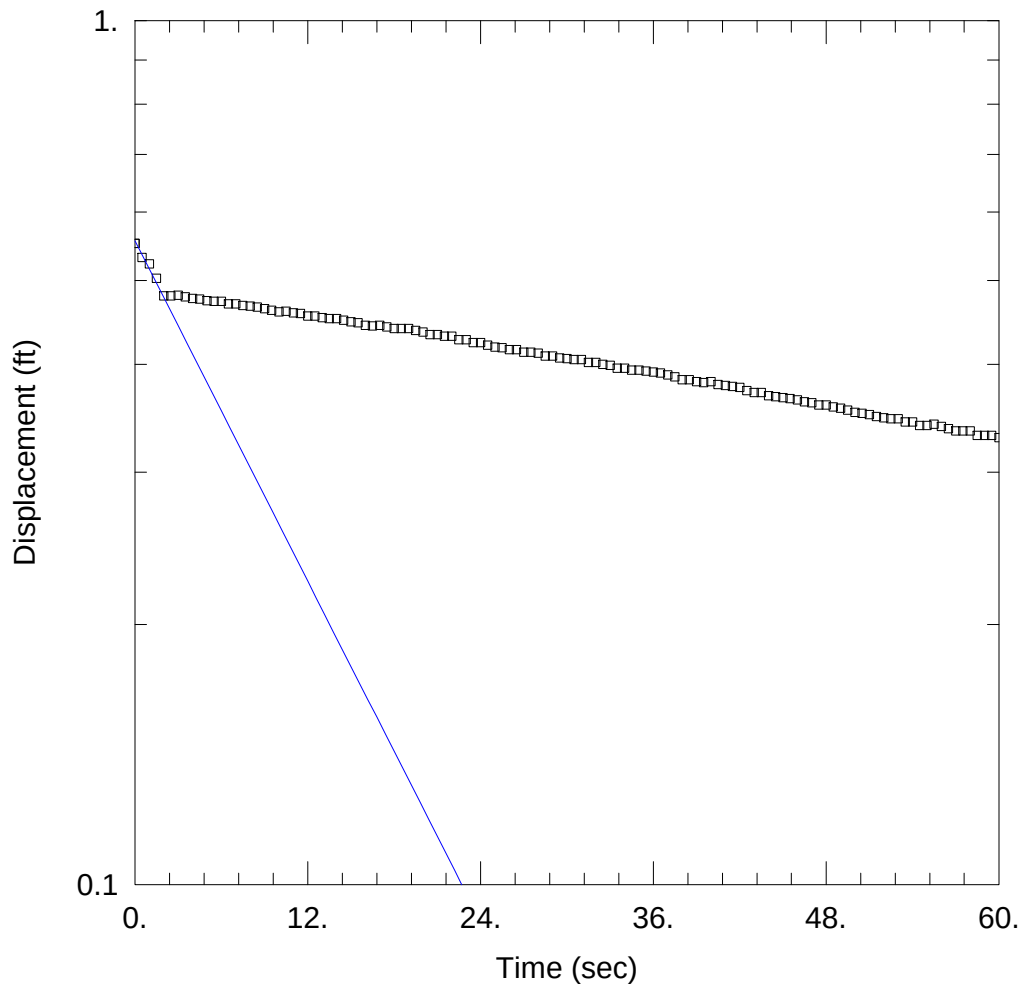
Saturated Thickness: 12.16 ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (BH-2 Rising)

Initial Displacement: 0.372 ft Static Water Column Height: 10.96 ft
 Total Well Penetration Depth: 10.66 ft Screen Length: 10. ft
 Casing Radius: 0.083 ft Well Radius: 0.177 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 $K = 2.739$ ft/day $y_0 = 0.3222$ ft



WELL TEST ANALYSIS

Data Set: K:\3-3081-01\Field Work\Data\Aqtesolve\052217 revised evaluation\BH3_falling 052217.aqt
 Date: 06/07/17 Time: 14:35:42

PROJECT INFORMATION

Company: JCO
 Client: Mogul
 Project: 3-3081-01
 Location: Jackson, WY
 Test Well: BH-3
 Test Date: 5/8/17

AQUIFER DATA

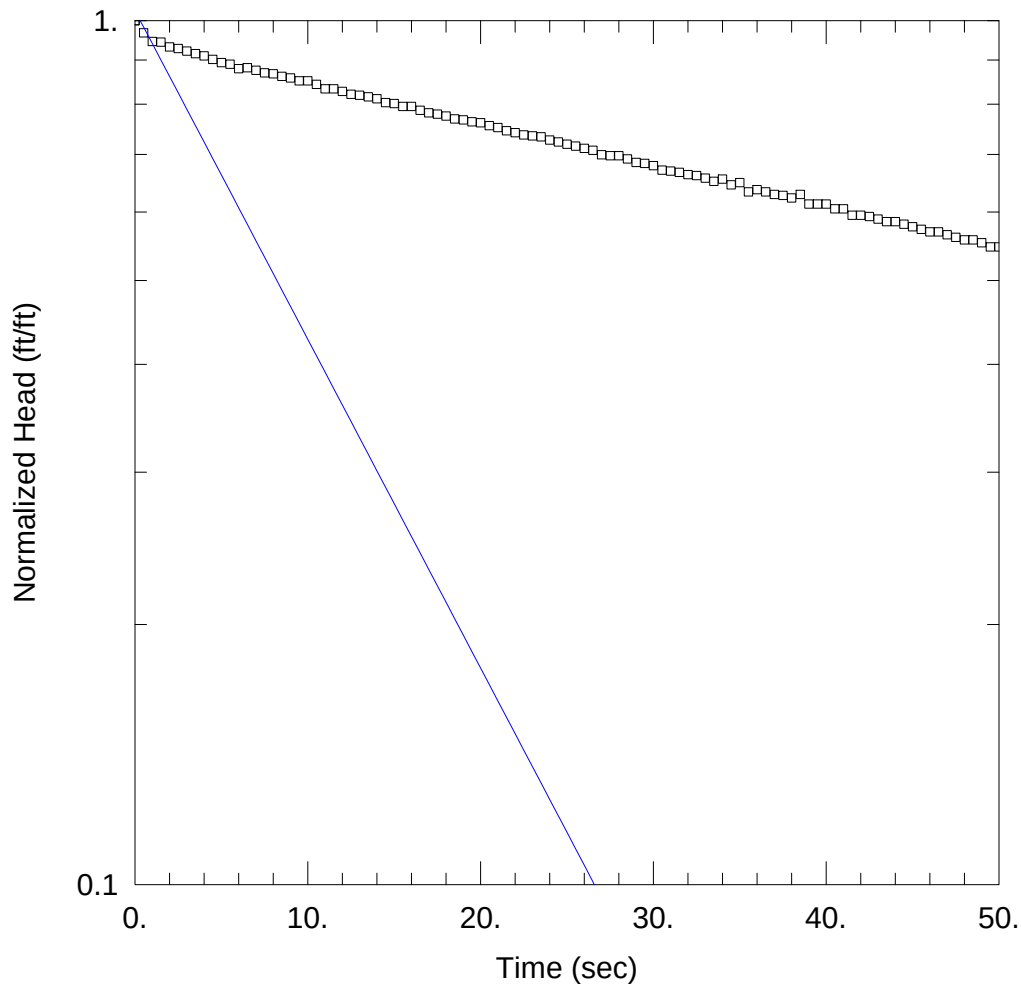
Saturated Thickness: 17.5 ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (BH-3 Falling)

Initial Displacement: 0.552 ft Static Water Column Height: 12.75 ft
 Total Well Penetration Depth: 12.71 ft Screen Length: 9.05 ft
 Casing Radius: 0.083 ft Well Radius: 0.177 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 $K = 7.093$ ft/day $y_0 = 0.5561$ ft



WELL TEST ANALYSIS

Data Set: K:\3-3081-01\Field Work\Data\Aqtesolve\052217 revised evaluation\BH4_rising 052217.aqt
 Date: 06/07/17 Time: 14:38:10

PROJECT INFORMATION

Company: JCO
 Client: Mogul
 Project: 3-3081-01
 Location: Jackson, WY
 Test Well: BH-4
 Test Date: 5/9/17

AQUIFER DATA

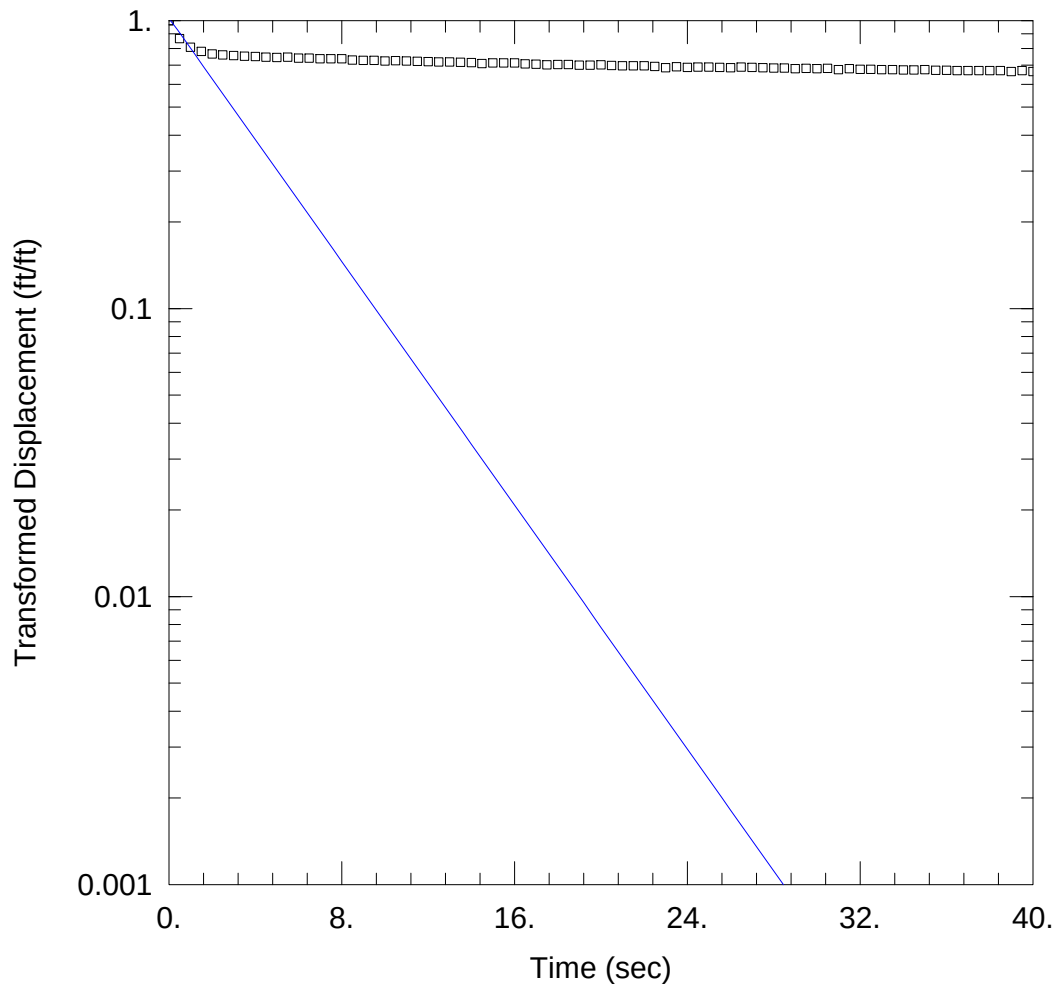
Saturated Thickness: 11. ft Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (BH-4 Rising)

Initial Displacement: 0.499 ft Static Water Column Height: 6.84 ft
 Total Well Penetration Depth: 6.85 ft Screen Length: 6.85 ft
 Casing Radius: 0.083 ft Well Radius: 0.177 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
 $K = 9.348$ ft/day $y_0 = 0.5124$ ft



WELL TEST ANALYSIS

Data Set: K:\3-3081-01\Field Work\Data\Aqtesolve\052217 revised evaluation\BH5_rising 052217.aqt
 Date: 06/07/17 Time: 14:39:50

PROJECT INFORMATION

Company: JCO
 Client: Mogul
 Project: 3-3081-01
 Location: Jackson, WY
 Test Well: BH-5
 Test Date: 5/9/17

AQUIFER DATA

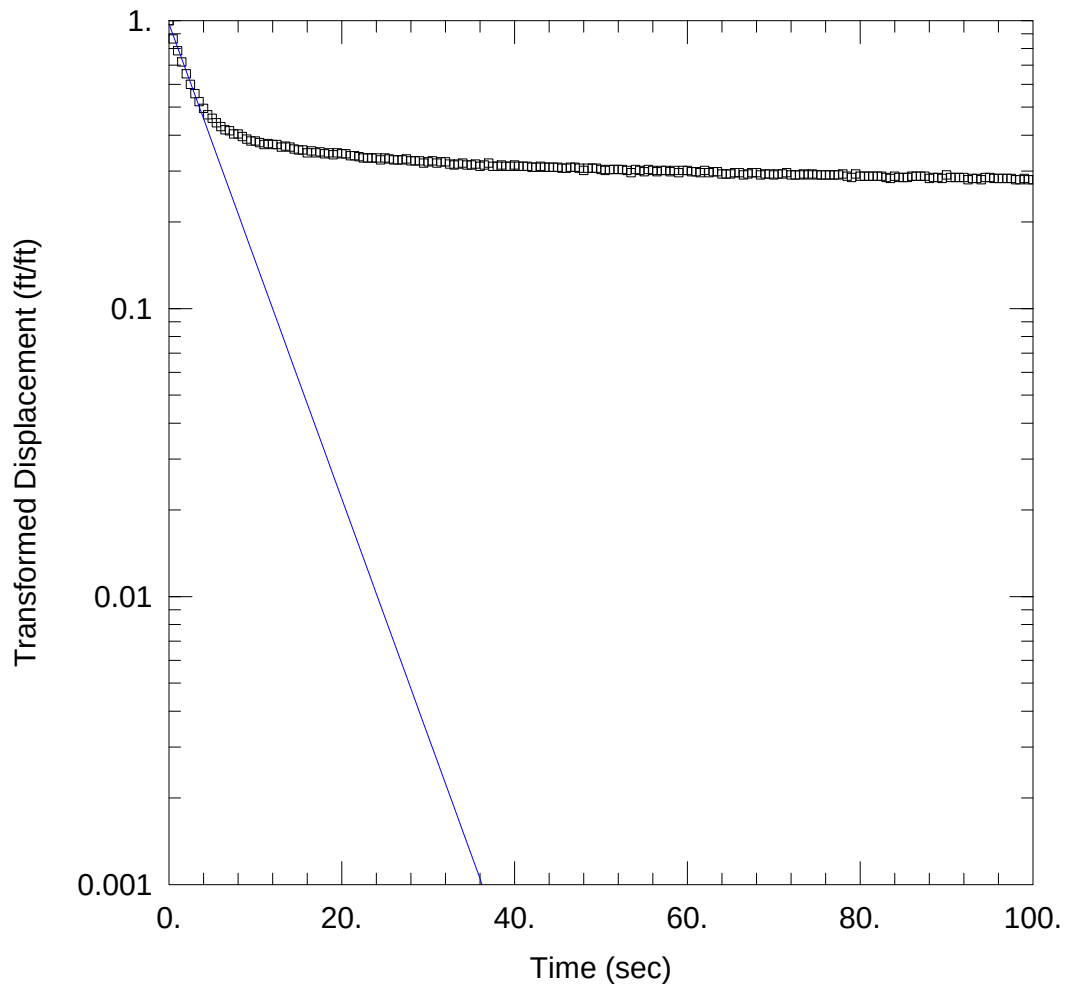
Saturated Thickness: 11.2 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH-5 Rising)

Initial Displacement: 0.505 ft Static Water Column Height: 10.03 ft
 Total Well Penetration Depth: 10. ft Screen Length: 10. ft
 Casing Radius: 0.083 ft Well Radius: 0.33 ft
 Gravel Pack Porosity: 0.35

SOLUTION

Aquifer Model: Unconfined Solution Method: Dagan
 K = 20.11 ft/day y0 = 0.5155 ft



WELL TEST ANALYSIS

Data Set: K:\...\MW021_rising 052217.aqt

Date: 06/07/17

Time: 14:50:42

PROJECT INFORMATION

Company: JCO

Client: Mogul

Project: 3-3081-01

Location: Jackson, WY

Test Well: MW-021

Test Date: 5/9/17

AQUIFER DATA

Saturated Thickness: 21. ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-021 Rising)

Initial Displacement: 0.37 ft

Static Water Column Height: 7.73 ft

Total Well Penetration Depth: 10. ft

Screen Length: 10. ft

Casing Radius: 0.083 ft

Well Radius: 0.3125 ft

Gravel Pack Porosity: 0.35

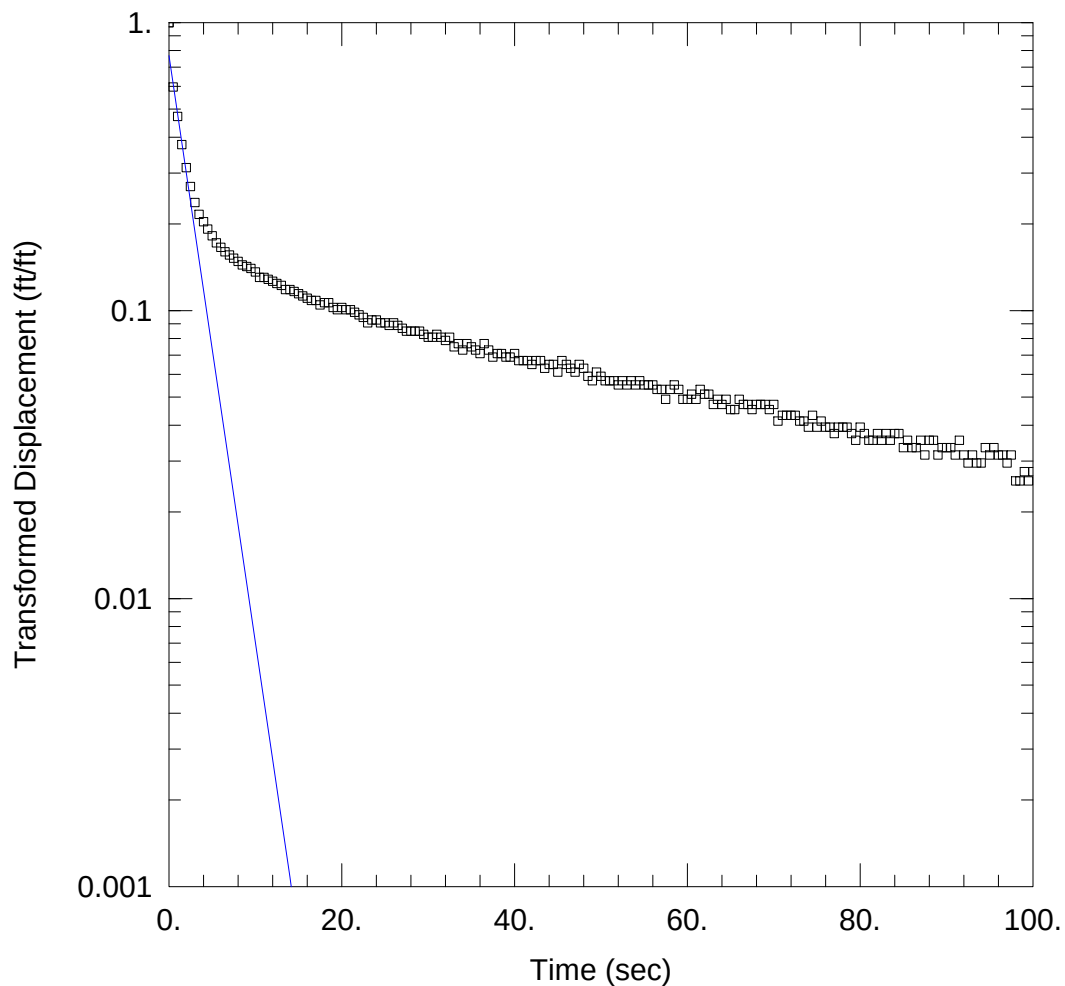
SOLUTION

Aquifer Model: Unconfined

Solution Method: Dagan

$K = 20.9$ ft/day

$y_0 = 0.3607$ ft



WELL TEST ANALYSIS

Data Set: K:\...\MW023_rising 052217.aqt

Date: 06/07/17

Time: 14:53:05

PROJECT INFORMATION

Company: JCO

Client: Mogul

Project: 3-3081-01

Location: Jackson, WY

Test Well: MW-023

Test Date: 5/9/17

AQUIFER DATA

Saturated Thickness: 20.5 ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-023 Rising)

Initial Displacement: 0.496 ft

Static Water Column Height: 8.18 ft

Total Well Penetration Depth: 10. ft

Screen Length: 10. ft

Casing Radius: 0.083 ft

Well Radius: 0.3125 ft

Gravel Pack Porosity: 0.35

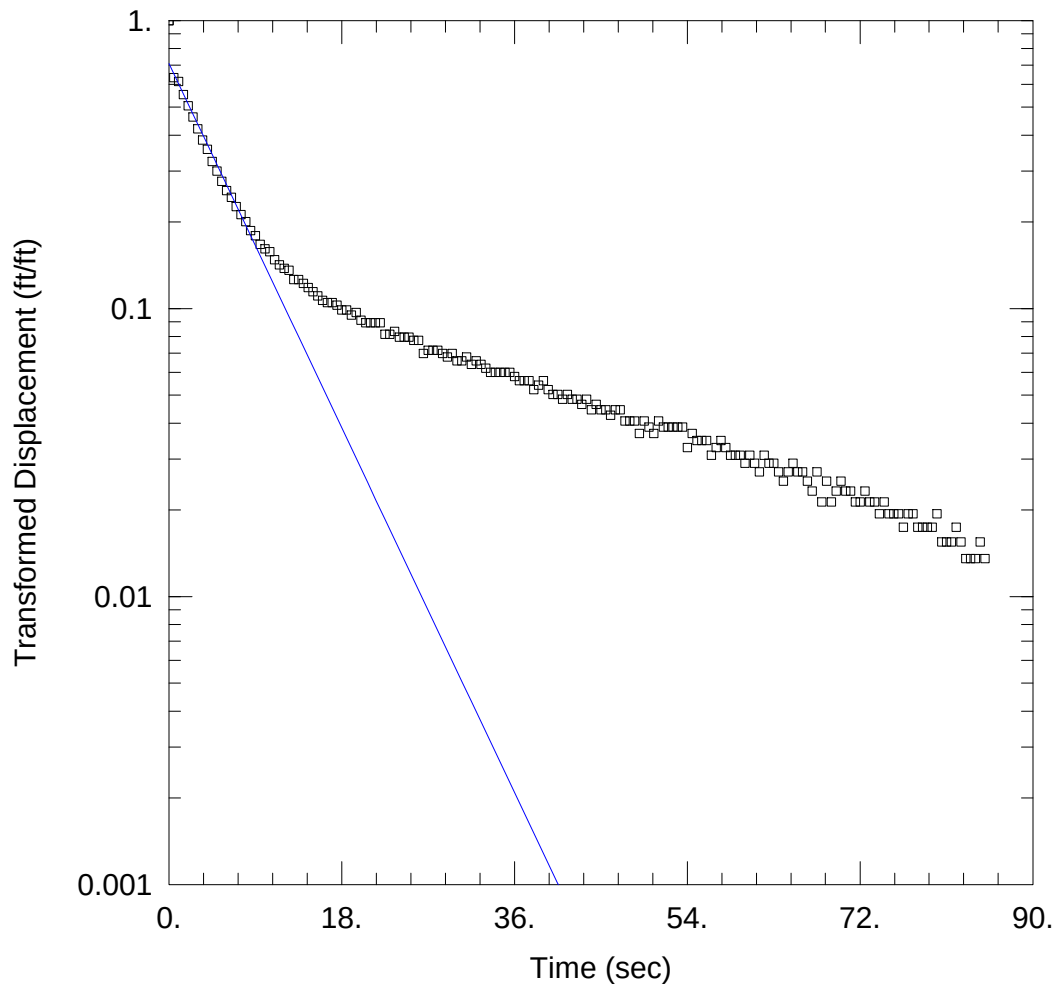
SOLUTION

Aquifer Model: Unconfined

Solution Method: Dagan

K = 48.64 ft/day

y0 = 0.3832 ft



WELL TEST ANALYSIS

Data Set: K:\...\MW029_rising 052217.aqt

Date: 06/07/17

Time: 14:53:26

PROJECT INFORMATION

Company: JCO

Client: Mogul

Project: 3-3081-01

Location: Jackson, WY

Test Well: MW-029

Test Date: 5/9/17

AQUIFER DATA

Saturated Thickness: 12. ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-029 Rising)

Initial Displacement: 0.504 ft

Static Water Column Height: 6.2 ft

Total Well Penetration Depth: 10. ft

Screen Length: 10. ft

Casing Radius: 0.083 ft

Well Radius: 0.3125 ft

Gravel Pack Porosity: 0.35

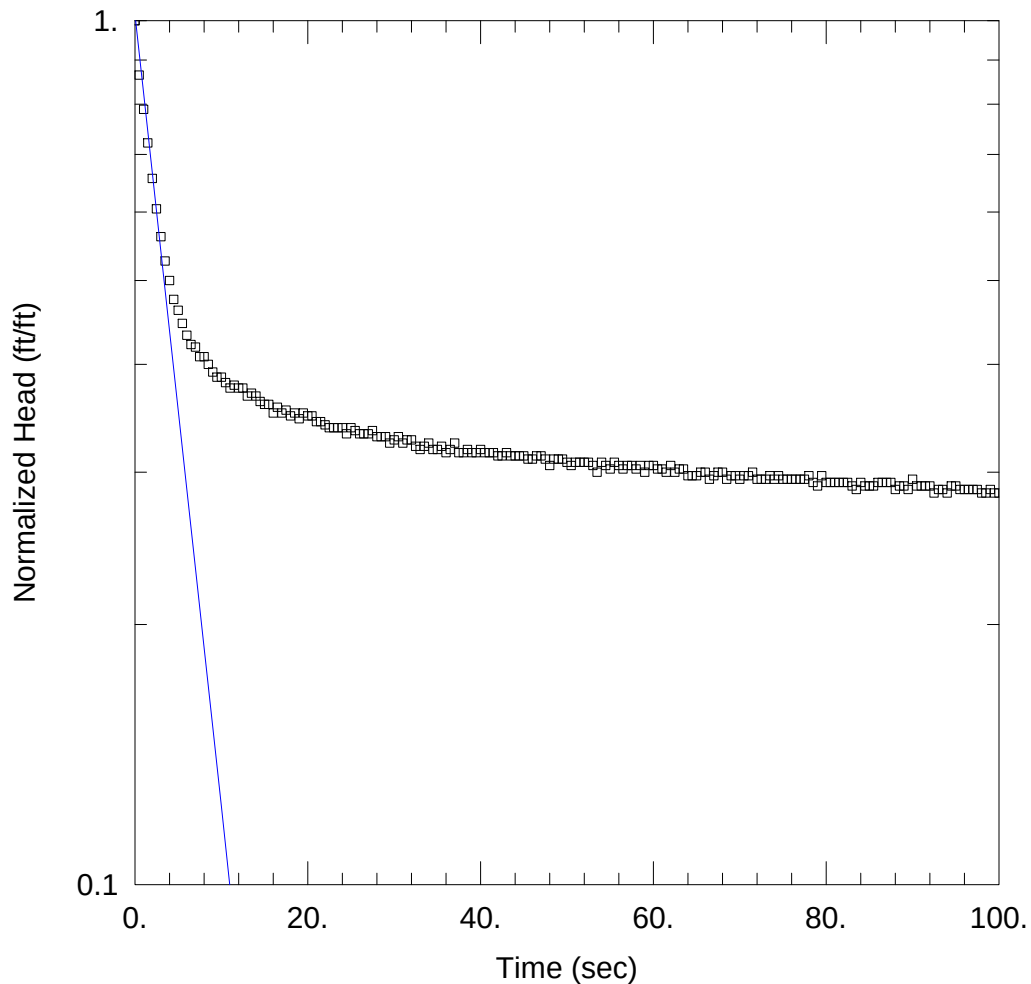
SOLUTION

Aquifer Model: Unconfined

Solution Method: Dagan

K = 19.1 ft/day

y0 = 0.36 ft



WELL TEST ANALYSIS

Data Set: K:\...\conf-MW021_rising 052217.aqt

Date: 06/08/17

Time: 10:29:13

PROJECT INFORMATION

Company: JCO

Client: Mogul

Project: 3-3081-01

Location: Jackson, WY

Test Well: MW-021

Test Date: 5/9/17

AQUIFER DATA

Saturated Thickness: 1. ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (Conf_MW-021 Rising)

Initial Displacement: 0.37 ft

Static Water Column Height: 7.73 ft

Total Well Penetration Depth: 10. ft

Screen Length: 10. ft

Casing Radius: 0.083 ft

Well Radius: 0.3125 ft

Gravel Pack Porosity: 0.35

SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

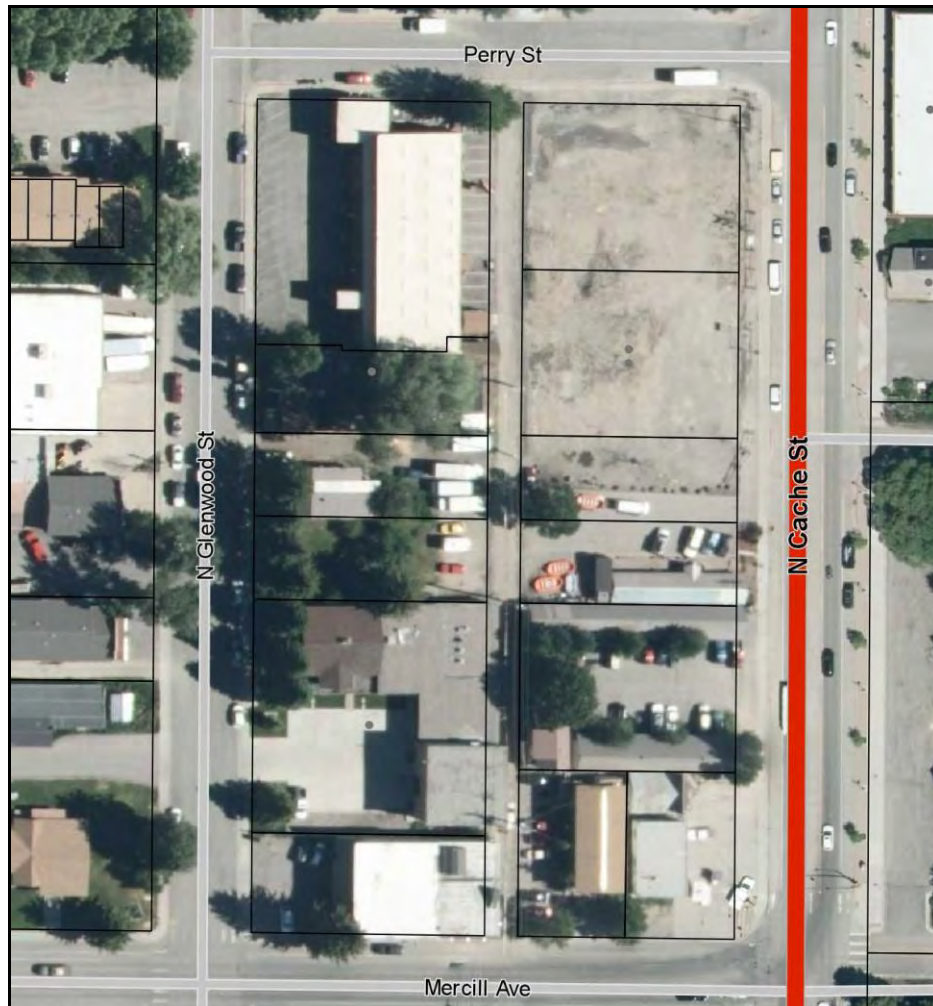
K = 119.5 ft/day

y0 = 0.3764 ft

ATTACHMENT B

Teton Geotechnical Geologic Investigation Report JH Mogul Hotel Jackson, Wyoming

GEOLOGIC INVESTIGATION REPORT
JH Mogul Hotel
Jackson, Wyoming



Prepared for:
Mogul Hospitality Partners – Jackson, LLC
210 E. Main Street, Suite 109
Midway, UT 84049

Prepared By:
Jason Rolfe, PG
Professional Geologist
Teton Geotechnical

May 30th, 2017

Rachel Lambert
Vice President of Construction
Mogul Hospitality Partners – Jackson, LLC
210 E. Main Street, Suite 109
Midway, UT 84049

Re: Geologic Investigation Report for the JH Mogul Hotel, Jackson, Wyoming

Dear Rachel,

This geologic investigation report describes the borehole and geologic conditions observed at the proposed JH Mogul Hotel site, which is approximately located at 325 North Cache Street, in Jackson, Wyoming. The purpose of the geologic information obtained from the field investigation will be for use in engineering design and development on the property. In total, 7 boreholes were logged at the site during this investigation and 8 samples were sent in for laboratory testing.

In summary, the 2-acre project is covered in 10 to 25 feet of fine-grained flood plain and swamp deposits, with the thickest deposits occurring at the northern end of the project. These fine-grained soils consist of primarily silt and clay. The swamp and flood plain deposits overlie medium dense to dense sandy cobble and gravel alluvium to depths in excess of 60 feet.

Groundwater was observed to be as shallow as 3 feet below the ground surface and will fluctuate in response to regional run-off events. The readings taken on May 8th, 2017, likely do not represent the shallowest readings of the season. The Johnson Company was retained to provide specific information related to the groundwater and hydrology for the project site.

We appreciate the opportunity to work with you on this project and we'll be available to answer questions as the project progresses.

Thank you,

Jason Rolfe, PG
Professional Geologist/Owner

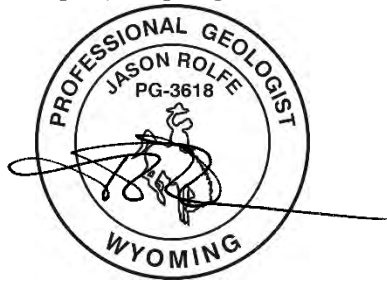


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1.2	HISTORICAL INFORMATION	1
1.3	PROPOSED DEVELOPMENT	2
1.4	PREVIOUS STUDIES	2
1.5	SCOPE OF INVESTIGATION	2
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2.3	SITE SOILS AND GEOLOGIC CHARACTERISTICS	4
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2.5	GEOLOGIC HAZARDS.....	5
2.6	LABORATORY TESTING	5
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Figure 1: Geologic Location Map
Figure 2: Borehole Location Map
Figure 3: USGS Seismic Design
Figure 4: Geologic Cross Sections Along A-A' and B-B'
Figure 5: Geologic Cross Sections Along C-C' and D-D'

Appendices

Appendix A: Borehole Logs
Appendix B: Strata Laboratory Test Results
Appendix C: Corrected N60 Spreadsheet
Appendix D: WDEQ LAUST Project Results
Appendix E: WAI Project Report

1 INTRODUCTION

As authorized by Rachel Lambert of Mogul Hospitality Partners, Teton Geotechnical performed a geologic site investigation for the approximate 2.6-acre project site, centered at 325 North Cache Street, and located less than a half-mile from the Town Square in Jackson, Wyoming (Figure 1). The purpose of this geologic investigation was to identify and log the site soils, groundwater, and site conditions for the use in planning and development of the subject property. In total, 7 boreholes were drilled during this investigation at the project site (Figure 2). In addition to this recent field exploration, approximately 20 previously drilled boreholes were reviewed and incorporated into this report. The previous boreholes were installed in an effort to monitor the limits of contaminated water and soil through the Wyoming Department of Environmental Quality's (WDEQ) Leaking Above and Underground Storage Tank (LAUST) program and previous development attempts. Information from the previous studies and the current study are included in this report and its appendices.

1.1 SITE DESCRIPTION

The 2.6-acre study area is comprised of 11 individual parcels, most of which contain existing structures and businesses. The area of interest is bounded to the west by North Glenwood Street, to the south by Mercill Avenue, to the east by North Cache Street, and to the north by Perry Avenue (Figure 2). The area of interest (AOI) is relatively flat and has less than approximately 5 vertical feet of relief throughout the parcels. The site has an average elevation of about 6,222 feet above mean sea level and is located in the southeast quarter of Section 28, Township 41N, Range 116W.

At the time of this report, no development drawings were available for review. The parcel is zoned CR-2 (Commercial Residential-2) and it is assumed that the site will be used primarily for commercial development.

1.2 HISTORICAL INFORMATION

Plat maps available from the county indicate that the area was first subdivided in September, 1925. According to air photos from the Teton County GIS Map Server, development began on the site between prior to 1945, the earliest photography available. By the 1950's, the block consisted of over a dozen houses and businesses. Development continued through the 1980s and stabilized for several decades, until 2012, when two buildings were demolished at the northeast corner of the block.

Over the decades, several automobile fueling stations and maintenance shops operated in the area and had approximately 10 underground storage tanks, several which were responsible for releasing hydrocarbons into the soil and groundwater.

At the time of this report, the AOI consists of retail stores, professional buildings, an operational hotel, an abandoned hotel, a rafting operation, a residential home, and two vacant lots.

1.3 PROPOSED DEVELOPMENT

At the time of this report, project drawings were not available for the site, although it is assumed that a new boutique hotel and retail stores will be constructed. Underground parking is a desired component for future site development.

1.4 PREVIOUS STUDIES

For the past 3 decades, there has been an ongoing effort to assess and mitigate the contaminated soil and groundwater surrounding the AOI. The studies were conducted under the supervision of the WDEQ and performed by Dames & Moore and the URS Corporation. These decontamination activities were accompanied by over two dozen geologic borings and groundwater monitoring wells. The associated reports and wells logs were incorporated into this report and are included in Appendix D of this report.

In January, 2008, Womack and Associates (WAI) issued a Geotechnical Investigation Report for the northeast quarter of the AOI. Their investigation included advancing 4 boreholes at the site, performing laboratory analyses, and offering engineering recommendations for construction. The borehole and laboratory data was used to supplement the borehole and laboratory data from this field investigation. The WAI report is included as Appendix E of this report.

1.5 SCOPE OF INVESTIGATION

On April 22nd and 23rd, 2017, a Professional Geologist from Teton Geotechnical directed the drilling, logging, sampling, and well installation of 7 exploratory boreholes at the project site. The boreholes were advanced using a Simco 2800 drill rig, which was operated by LK Drilling out of Green River, Wyoming. A total of 188 vertical feet of drilling was executed and 30 Standard Penetration Tests were performed in two days of drilling. Boring logs from the field exploration effort are included in Appendix A of this report.

Boreholes were distributed evenly throughout the southern half of the AOI and 6 new wells were installed in order to support hydrologic studies at the site (provided by The Johnson Company).

For borings BH-1 to BH-6, the holes were generally terminated at the contact between the fine-grained swamp and flood plain deposits and the coarse-grained alluvial gravels and cobbles. Borehole BH-7 was advanced to 75 feet in depth.

This report contains a summary of the recent field investigation and includes discussions and data provided by previous studies performed at the site, including those by WAI and WDEQ.

2 GEOLOGIC INFORMATION

2.1 GEOLOGIC SETTING

The project site can be found on the Geologic Map of the Jackson Quadrangle, Teton County, Wyoming (Love and Albee, 2004), which contains the location of various rock units, contacts, faults, and other geologic information. According to the map, the site is covered by Quaternary flood plain (Qfp) deposits and is likely to intermix with the locally mapped swamp (Qs) and alluvial fan (Qf) deposits (Figure 1). Love and Albee describe the units as follows:

Flood Plain Deposits: “Sand, silt, clay, and minor lenses of gravel.”

Swamp Deposits: “Clay, silt, and fine sand, dark-gray and brown; rich in vegetal debris.”

Alluvial Fan Deposits: “Water-laid gravel, sand, silt, and clay spreading out from mouths of ravines and canyons; finer-grained debris becomes progressively more abundant toward downstream margin of fan.”

The soils encountered in the boreholes indicate that, due to the similarity in the materials, there may be overlapping and interfingering of the flood plain and swamp deposits, which overlie alluvial gravels and cobbles. The precise determination of the origin of the fine-grained materials at the site is extremely difficult to ascertain and will not likely have a strong influence on the engineering characteristics of the soil. Although the geologic mapping is considered to be accurate on a large scale, it is unlikely to provide anything more than a guideline for small scale applications, such as the project site. In general, swamp deposits are mapped east of the site and alluvial fan deposits are mapped south of the AOI.

Cross sections for the project site were compiled from this investigation’s drilling data and that from the previous studies at the project site. Although dozens of wells have been installed near the project site, their depths did not always penetrate into the coarse grained alluvial gravels and cobbles. This gives an approximate minimum depth to the alluvium, but does not allow for a discrete horizon to be determined for many of these wells. In some areas, the geologic conditions were inferred from these minimum depths and extrapolated from the known depths. Cross sections for the AOI are included as Figure 4 and Figure 5 of this report.

The soils identified in the boreholes generally agree with the mapping, but also suggest that there has been a mixing of materials over geologic time. For simplicity, the fine-grained materials encountered at the site are considered to be flood plain

and swamp deposits and the underlying coarse grained materials are considered to be alluvial gravels and cobbles, unless noted otherwise.

2.2 SEISMICITY

Jackson Hole is located within the Intermountain Seismic Belt (ISB), a zone of seismicity that extends south to Arizona and north into Montana. The ISB is responsible for several large fault zones throughout the Intermountain West and includes the Teton, Hoback, and Grand Valley fault systems. The Teton fault is located approximately 6.5 miles northwest of the project site and is considered to be capable of generating a magnitude 6.9 to 7.5 earthquake. Strong ground motion at the project site can be expected if there is a sizeable earthquake on the Teton or other regional fault. Seismic design criteria, provided by the USGS, are attached in Figure 3 of this report. The property is classified as having Site Class D soils.

2.3 SITE SOILS AND GEOLOGIC CHARACTERISTICS

In general, the site soils consist approximately 10 to 25 feet of fine-grained swamp and flood plain deposits, which are comprised of various amounts of clay, silt, and sand. The fine-grained soils are generally moist to wet, soft to medium stiff, and highly plastic. Shells and organics were observed in several of the recovered cores and suggest that deposition may have been along the edge of a lake or lacustrine environment at one point in geologic time. As seen in Figures 4 and 5, the depth of the fine-grained deposits increases from south to north, but remain somewhat constant east to west.

The fine-grained soils overlie alluvial gravel and cobbles to a depth of at least 60 feet. The gravel and cobble alluvium is generally dense to very dense, wet to saturated, and likely contains clasts up to 9-inches in diameter. Due to the narrow aperture size of the downhole sampler, recovery of whole clasts is not possible. Instead, the size of the gravel and cobbles is estimated based on other deposits identified in the Jackson Hole area.

Below 60 feet, BH-7 encountered several clay, sand, and gravel layers to the bottom of the borehole. This suggests that there is a depositional change that occurs at approximately 60 feet in depth, which may necessitate additional geotechnical information if deep foundation systems are planned.

The fine-grained swamp and flood plain deposits are likely to have an average dry density of approximately 90 pcf, based on the laboratory test performed by WAI, and an internal friction angle of 25 degrees, based on the soil classifications.

The alluvial gravels and cobbles have an average dry density of 135 pounds per cubic foot, an internal friction angle of 35 degrees, and no cohesion.

The USDA Web Soil Survey, classifies 100% percent of the lot as Greyback gravelly loam, which consists of gravelly loam, very gravelly sandy loam, and very gravelly loamy sand to depths of 5 feet. Field investigations at the site have observed much more silt and clay deposition than the USDA mapping has identified.

2.4 SURFACE WATER AND GROUNDWATER

Groundwater was observed in all of the boreholes and monitoring wells were installed in 6 out of 7 of the new boreholes. Well readings taken on May 8th, 2017 indicate a groundwater level between approximately 2 feet and 8 feet.

The Johnson Company has been retained for studies related to the groundwater and its characteristics.

2.5 GEOLOGIC HAZARDS

The geologic hazards identified at the property include:

- Strong ground motion in connection with a seismic event;
- Liquefaction from strong ground shaking, unless the buildings and other structures are placed on the alluvial cobbles and gravels or connected to them through deep foundations;
- Settlement or consolidation in the swamp and flood plain deposits;
- Buoyancy distress from structures placed below groundwater levels.

2.6 LABORATORY TESTING

As previously mentioned, laboratory testing was performed on 8 samples obtained from the boreholes advanced by Teton Geotechnical (Appendix B), and WAI performed soil tests in 2008 (Appendix E). Testing in 2017 consisted of Atterberg Limits tests and fines classification and were performed by Strata, out of Idaho Falls, ID.

Laboratory testing for the coarse-grained alluvial gravels and cobbles was not performed because the downhole sampler cannot collect a representative sample and the soil characteristics of the alluvium are well known.

The soil classification and Atterberg Limits tests indicate that the fine-grained soils are lean clays, fat clays, low-plastic silts, and high-plastic silts. Basically, there was concurrent deposition of clay, silt, and sand occurring in inconsistent ratios to produce a large amount of soil variation. Seven of the Atterberg Limits tests returned plasticity index values ranging from 15 to 45, which correspond to medium plastic to highly plastic soils. Only one of the samples returned as non-plastic. The laboratory samples are consistent with swamp and flood plain soils.

The 2008 report from WAI includes additional laboratory testing, such as consolidation tests and particle size distribution analyses.

3 CONCLUSION

The 2-acre project site is located on deposits of fine-grained flood plain and swamp deposits which overlie alluvial gravel and cobbles at a depth of 10 to 25 feet. The fine-grained soils consist of low-plastic silt, high-plastic silt, low-plastic clay, and high plastic clay. Groundwater was observed to be as shallow as 2 feet in the project vicinity, although this depth may rise and fall in response to regional groundwater conditions.

The project developer will have several hazards to overcome in order to build at the site, such as shallow groundwater, collapsible and expansive soils, weak bearing soils, and shaking and/or liquefaction during a seismic event.

4 LIMITATIONS

The geologic and geotechnical recommendations and interpretations outlined in this report are based on a limited amount of data and assumes that major variations in the subsurface will not exist. Although every attempt to document the soils has been made, the soil conditions are based on a limited amount of information. This office should be immediately notified if significant differences between the assumptions made in this report and the actual site conditions exist.

At the time of this report, basic project drawings were not available for review. This office should be provided a set of final development plans in order to verify that the recommendations and interpretations made in this report are in accordance with the project specifications. Copies of this report should be made available to the contractors, architects, and engineers working on this project.

The recommendations provided in this report are valid for one year from its issue date and this office should verify site conditions after that time. This report and its figures are applicable only to the aforementioned project site and should not be used for other properties or parcels.

Teton Geotechnical appreciates the opportunity to work with you on this project. If you have any additional questions regarding this project, then please contact our office.

5 REFERENCES

Federal Emergency Management Agency, Flood Map Service Center, Internet site: <https://msc.fema.gov/portal/>, last accessed on 5/20/2017.

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Smith, R.B., Arabasz, W.J., 1991, Seismicity of the Intermountain Seismic Belt, in Slemmons, D.B., Engdahl, E.R., Zoback, M.D., and Blackwell, D.D., editors, Neotectonics of North America, Geological Society of America, Decade Map Volume 1, p. 185-228.

Terzaghi, K., and Peck, R.B., 1967, Soil Mechanics in Engineering Practice, Second Edition: John Wiley & Sons, New York, 729 p.

Teton County, Teton County GIS Map Server, Internet site: <http://maps.greenwoodmap.com/tetonwy/mapserver/map>, last accessed on 5/29/2017.

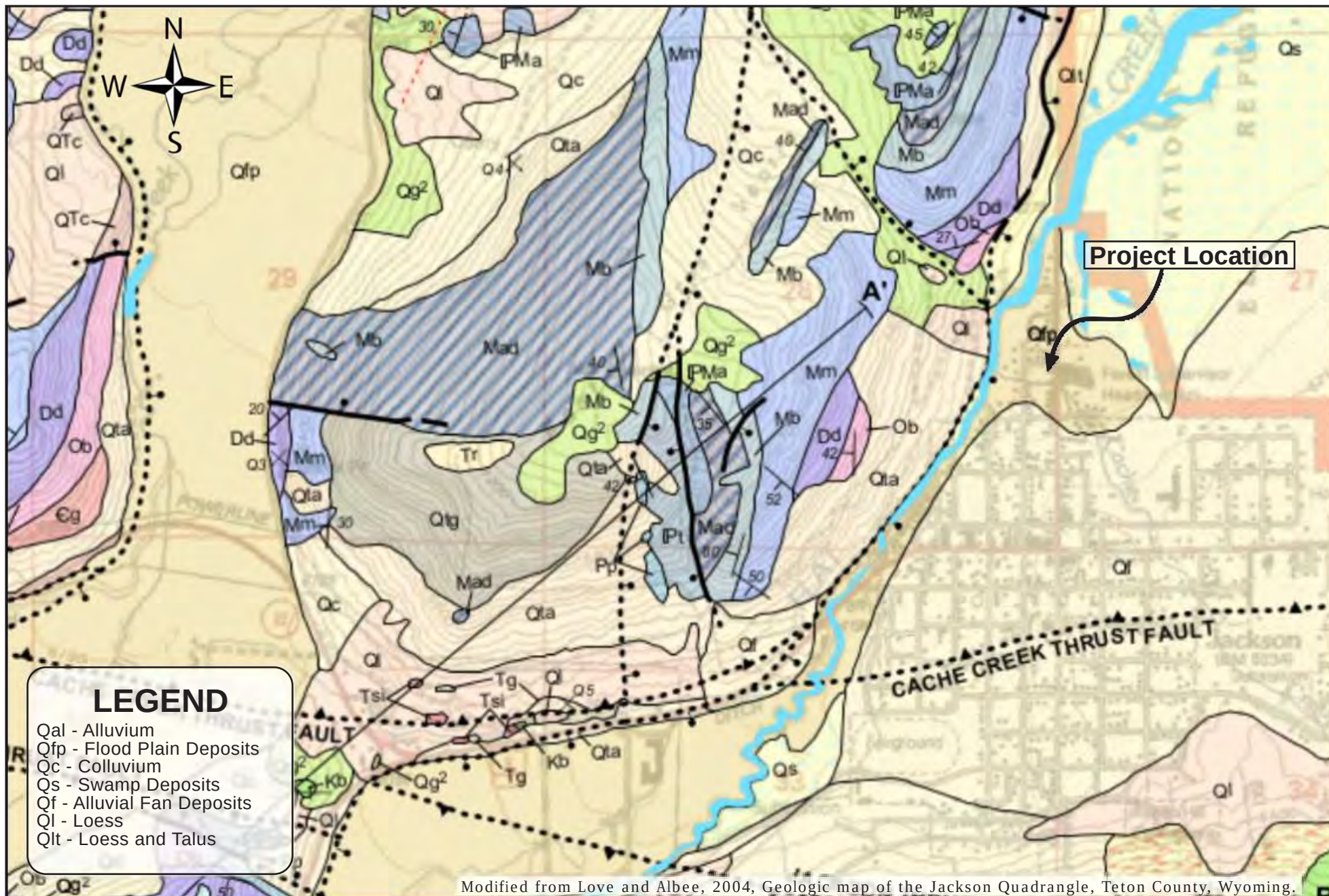
United States Department of Agriculture, Web Soil Survey, Internet site: <http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>, last accessed on 2/10/2017.

United States Geological Survey, U.S. Seismic Design Maps, Internet site: <http://earthquake.usgs.gov/designmaps/us/application.php>, last accessed on 5/15/2017.



Teton Geotechnical

FIGURES

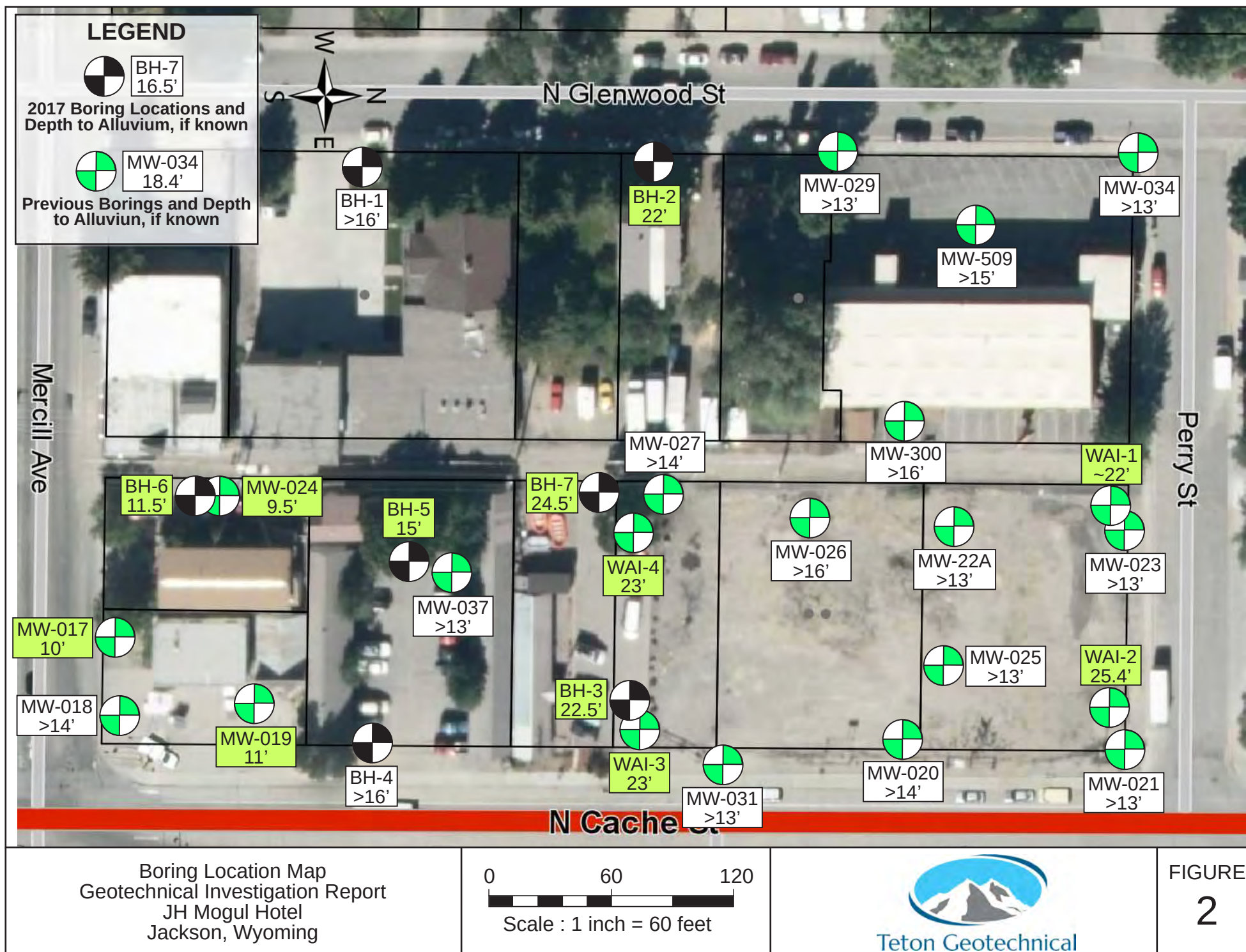


Geologic Location Map
Geologic Investigation Report
JH Mogul Hotel
Jackson, Wyoming

0 1/4 Mile 1/2 Mile
Scale : 1 inch = 1/4 Mile



FIGURE
1



Boring Location Map
Geotechnical Investigation Report
JH Mogul Hotel
Jackson, Wyoming

0 60 120
Scale : 1 inch = 60 feet



FIGURE
2

USGS Design Maps Summary Report

User-Specified Input

Report Title JH Mogul Hotel

Tue May 30, 2017 02:56:54 UTC

Building Code Reference Document 2012/2015 International Building Code
(which utilizes USGS hazard data available in 2008)

Site Coordinates 43.48442°N, 110.7624°W

Site Soil Classification Site Class D – “Stiff Soil”

Risk Category I/II/III



USGS–Provided Output

$S_S = 1.245 \text{ g}$

$S_{MS} = 1.247 \text{ g}$

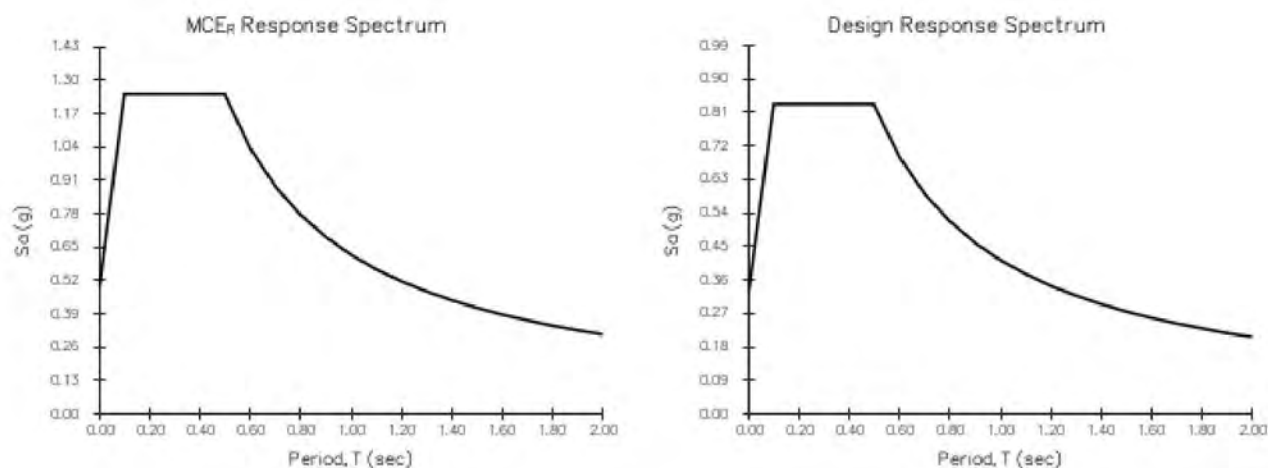
$S_{DS} = 0.832 \text{ g}$

$S_1 = 0.376 \text{ g}$

$S_{M1} = 0.620 \text{ g}$

$S_{D1} = 0.413 \text{ g}$

For information on how the S_S and S_1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the “2009 NEHRP” building code reference document.

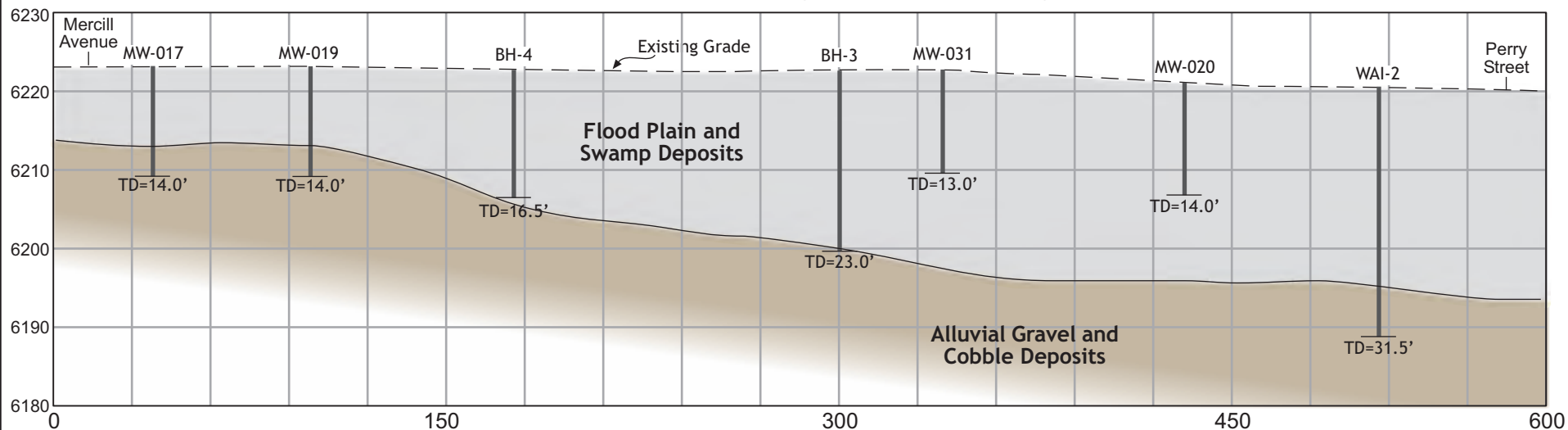


Although this information is a product of the U.S. Geological Survey, we provide no warranty, expressed or implied, as to the accuracy of the data contained therein. This tool is not a substitute for technical subject-matter knowledge.

A

Cross Section Along A-A', Looking West

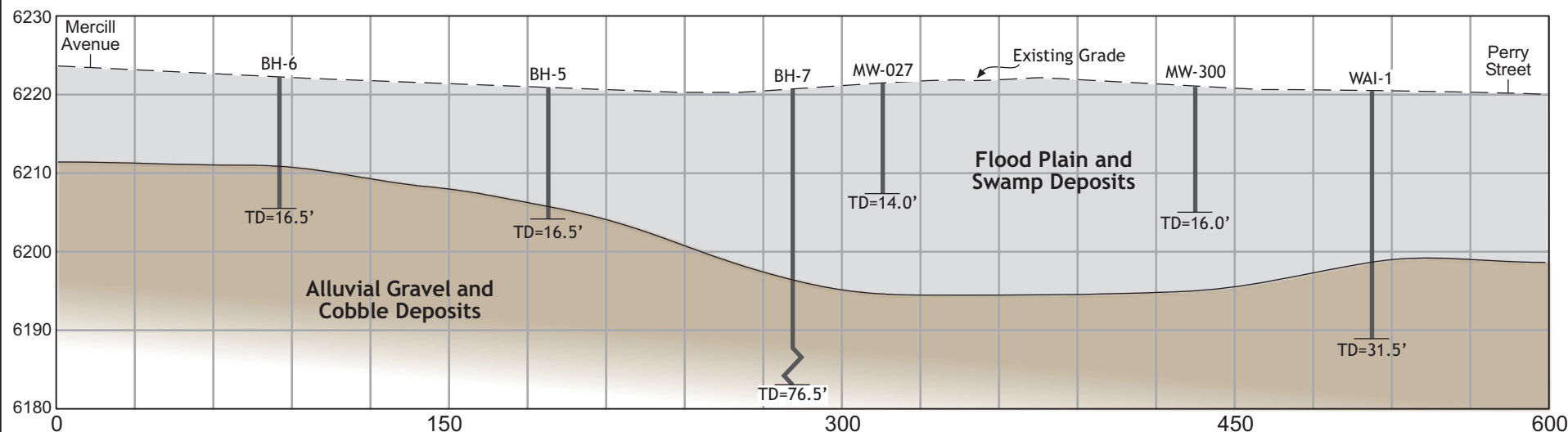
A'



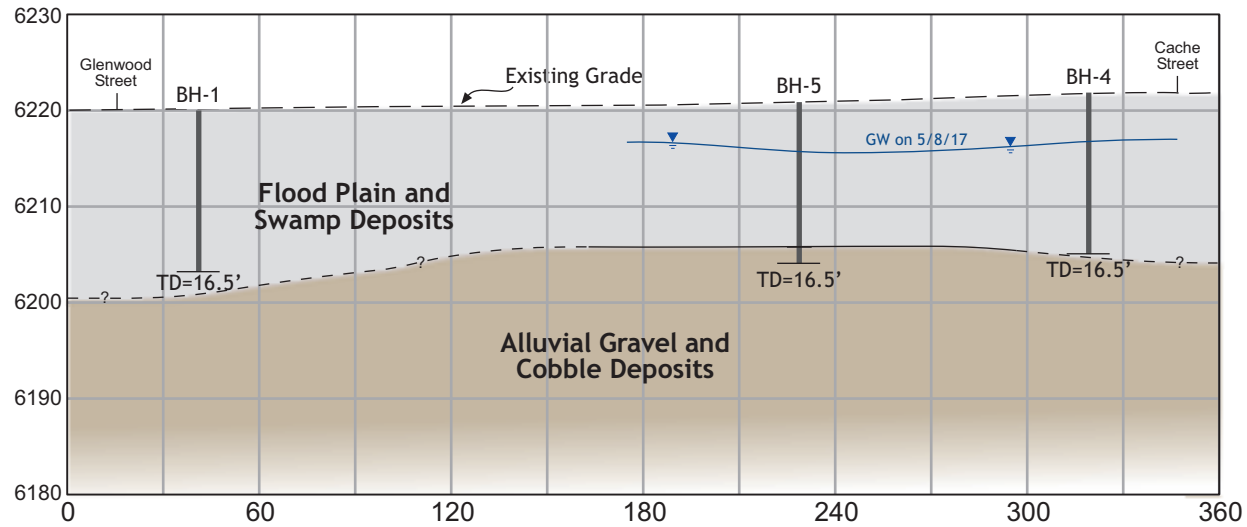
B

Cross Section Along B-B', Looking West

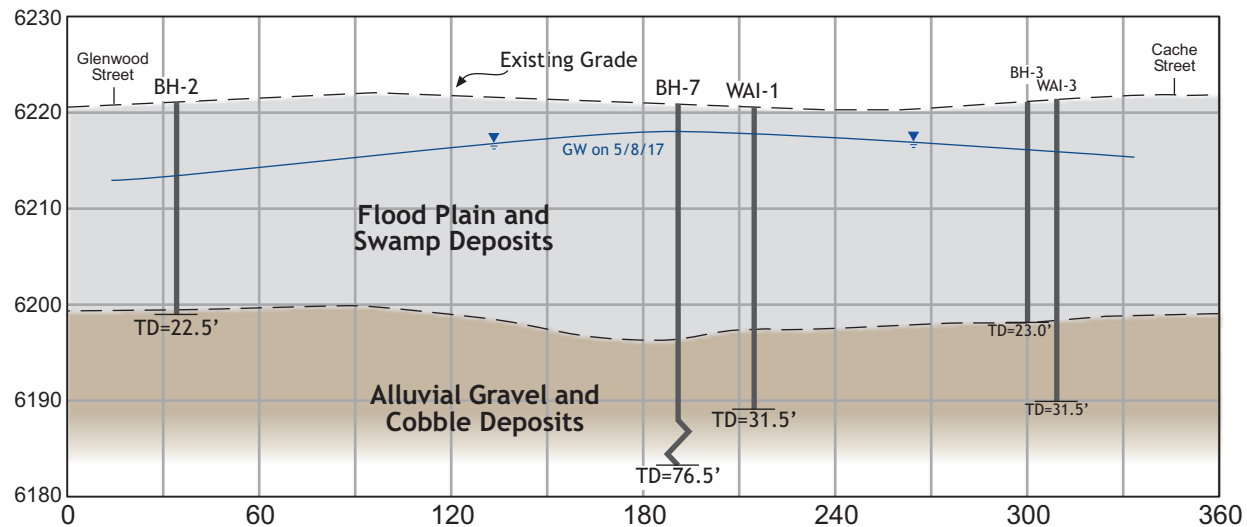
B'



C Cross Section Along C-C', Looking North C'



D Cross Section Along D-D', Looking North D'





Teton Geotechnical

APPENDICES



Teton Geotechnical

APPENDIX A

Borehole Logs

Project: JH Boutique Hotel		Project Number: 1703.1		Client: Mogul Capital		Borehole No. BH-1		
Site Location: W side of 330 N Glenwood, Jackson, WY				Drilling Contractor: LK Drilling		Drill Type: Simco 2800		
Logged By: JR		Date	Started: 4/22/2017		Operator: Steve		Weather: Clear	
Elevation: ~6,220'			Completed: 4/22/2017		Groundwater Depth: 12.5'		Total Depth of Borehole: 16.5'	
Borehole Location: Lawn of the Meridian Group, see Figure 2				Monitoring Well Notes: N/A				
Surface Description: Grassy lawn				Other: Rope and cat head used. 2"-diameter split spoon used for sampling.				

Depth (feet)	SPT Interval	Sample Type and Number	Sample Retrieval	Corrected SPT Values (N60)	Lithology	Plasticity Index
					Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors. Rock Description: modifier, color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions, other descriptors.	
1					0.0' - 1.5': FILL - Sandy gravel and cobbles, medium brown, moist, loose to dense, surface is grass.	
2					1.5' - BOH': FLOODPLAIN DEPOSITS - Interbedded and intermixed clay, silt, sand, and gravel.	
3						
4					- intermittent gravel to 5'.	
5						
6		SS 1-1	6"/18"	13	5.0' - 6.5': Clayey gravel and cobbles, dark brown, moist, medium dense, plastic matrix, cobble in shoe.	
7						
8						
9					- grinding to 10', heavy at times.	
10						
11		SS 1-2	8"/18"	17	10.0' - 11.5': Silty gravel, dark brown, dry to slightly moist, medium dense.	
12						
13					- groundwater at 12.5' at time of drilling.	
14						
15						
16		SS 1-3	3"/18"	16	15.0' - 16.5': Gravelly sand, orange, saturated, medium dense, non-plastic.	
17					Bottom of borehole at 16.5' below the ground surface. Groundwater observed at approximately 12.5' at time of drilling.	

Project: JH Boutique Hotel		Project Number: 1703.1		Client: Mogul Capital		Borehole No. BH-2		
Site Location: W side of 350 N Glenwood, Jackson, WY				Drilling Contractor: LK Drilling		Drill Type: Simco 2800		
Logged By: JR		Date	Started: 4/22/2017		Operator: Steve		Weather: Clear	
Elevation: ~6,220'			Completed: 4/22/2017		Groundwater Depth: 12.0'		Total Depth of Borehole: 22.0'	
Borehole Location: Lawn of the Meridian Group, see Figure 2				Monitoring Well Notes: 2-inch diameter well. Screened from 8.5'-18.5'.				
Surface Description: Grassy lawn				Other: Rope and cat head used. 2"-diameter split spoon used for sampling.				

Depth (feet)	SPT Interval	Sample Type and Number	Sample Retrieval	Corrected SPT Values (N60)	Lithology	Plasticity Index
1					0.0' - 1.5': FILL - Sandy gravel and cobbles, medium brown, moist, loose to dense, surface is grass.	
2					1.5' - 22.0': FLOODPLAIN AND SWAMP DEPOSITS - Interbedded and intermixed clay, silt, and fine sand.	
3						
4					- easy drilling.	
5					5.0' - 6.5': Silty clay, dark brown, moist, medium stiff, plastic.	
6		SS 2-1	10"/18"	8		
7						
8						
9						
10					10.0' - 11.5': Clay, grey/blue with black flecks, moist, soft, highly plastic, few organics.	
11		SS 2-2	10"/18"	3		
12					- groundwater at 12.0' at time of drilling.	
13						
14						
15					15.0' - 16.5': Clay, light brown, moist to wet, highly plastic, soft, fossiliferous, shells and organics.	
16		SS 2-3	14"/18"	4		
17						

Project: JH Boutique Hotel				Project Number: 1703.1	Client: Mogul Capital	Borehole No. BH-2
Depth (feet)	SPT Interval	Sample Type and Number	Sample Retrieval	Corrected SPT Values (N60)	Lithology	Plasticity Index
					Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors. Rock Description: modifier, color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions, other descriptors.	
18					FLOODPLAIN AND SWAMP DEPOSITS, continued from page 1	
19					- easy drilling.	
20						
21						
22					22.0' - BOH': ALLUVIUM - Sandy cobbles and gravel, medium dense, wet.	
23					Bottom of borehole at 22.5' below the ground surface.	
24					Groundwater observed at approximately 12.0' at time of drilling.	
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
					Page: 2 of 2 Borehole: BH-2 Project: JH Boutique Hotel Location: W side of 330 N Glenwood, Jackson, WY	

Project: JH Boutique Hotel		Project Number: 1703.1		Client: Mogul Capital		Borehole No. BH-3		
Site Location: SE side of 345 N Cache, Jackson, WY				Drilling Contractor: LK Drilling		Drill Type: Simco 2800		
Logged By: JR		Date	Started: 4/22/2017		Operator: Steve		Weather: Clear	
Elevation: ~6,222'			Completed: 4/22/2017		Groundwater Depth: ~7.0'		Total Depth of Borehole: 23.0'	
Borehole Location: Eastern side of Lewis and Clark parking lot, see Figure 2				Monitoring Well Notes: 2-inch diameter well. Screened from 9.0'-19.0'.				
Surface Description: Parking lot				Other: Rope and cat head used. 2"-diameter split spoon used for sampling.				

Depth (feet)	SPT Interval	Sample Type and Number	Sample Retrieval	Corrected SPT Values (N60)	Lithology	Plasticity Index
					Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors. Rock Description: modifier, color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions, other descriptors.	
1					0.0' - 3.0': FILL - Asphalt over sandy gravel and cobble pit run fill. 	

Project: JH Boutique Hotel				Project Number: 1703.1	Client: Mogul Capital	Borehole No. BH-3
Depth (feet)	SPT Interval	Sample Type and Number	Sample Retrieval	Corrected SPT Values (N60)	Lithology	Plasticity Index
					Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors. Rock Description: modifier, color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions, other descriptors.	
18 —					FLOODPLAIN AND SWAMP DEPOSITS, continued from page 1	
19 —					20.0' - 21.5': Clay, light brown to dark brown, wet, soft, highly plastic, fossiliferous, shells and organics.	
20 —		SS				
21 —		3-4	12"/18"	3		
22 —						
23 —					22.5' - BOH: ALLUVIUM - Sandy gravel and cobbles, wet, dense.	
24 —					Bottom of borehole at 23.0' below the ground surface. Groundwater observed at approximately 7.0' at time of drilling.	
25 —						
26 —						
27 —						
28 —						
29 —						
30 —						
31 —						
32 —						
33 —						
34 —						
35 —						
36 —						
37 —						
38 —						
39 —						



Page: 2 of 2
Borehole: BH-3
Project: JH Boutique Hotel
Location: SE side of 345 N Cache, Jackson, WY

Project: JH Boutique Hotel		Project Number: 1703.1		Client: Mogul Capital		Borehole No. BH-4		
Site Location: SE side of 325 N Cache, Jackson, WY				Drilling Contractor: LK Drilling		Drill Type: Simco 2800		
Logged By: JR		Date	Started: 4/22/2017		Operator: Steve		Weather: Clear	
Elevation: ~6,224'			Completed: 4/22/2017		Groundwater Depth: ~7.0'		Total Depth of Borehole: 16.5'	
Borehole Location: Southeast side of Pioneer Motel courtyard, see Figure 2				Monitoring Well Notes: 2-inch diameter well. Screened from 9.0'-19.0'.				
Surface Description: Parking lot				Other: Rope and cat head used. 2"-diameter split spoon used for sampling.				

Depth (feet)	SPT Interval	Sample Type and Number	Sample Retrieval	Corrected SPT Values (N60)	Lithology	Plasticity Index
					Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors. Rock Description: modifier, color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions, other descriptors.	
1					0.0' - 2.0': FILL - Asphalt over sandy gravel and cobble fill.	
2					2.0' - 16.5': FLOOD PLAIN AND SWAMP DEPOSITS - Intermixed clay, silt, sand, and gravel. 5.0' - 6.5': Silty clay, dark brown, moist, soft, highly plastic. - groundwater at 7.0' at time of drilling. - gravel lenses from 7'-12'. - continued easy drilling. 10.0' - 11.5': Silty, clayey gravel, grey brown, wet, loose. 15.0' - 16.5': Silty clay, dark brown, wet, very soft, highly plastic, gravel in shoe (likely from above).	
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						

Project: JH Boutique Hotel		Project Number: 1703.1		Client: Mogul Capital		Borehole No. BH-5		
Site Location: West side of 325 N Cache, Jackson, WY				Drilling Contractor: LK Drilling		Drill Type: Simco 2800		
Logged By: JR		Date	Started: 4/22/2017		Operator: Steve		Weather: Clear	
Elevation: ~6,224'			Completed: 4/22/2017		Groundwater Depth: ~15.0'		Total Depth of Borehole: 16.5'	
Borehole Location: West side of Pioneer Motel courtyard, see Figure 2				Monitoring Well Notes: 2-inch diameter well. Screened from 5.0'-15.0'.				
Surface Description: Parking lot				Other: Rope and cat head used. 2"-diameter split spoon used for sampling.				

Depth (feet)	SPT Interval	Sample Type and Number	Sample Retrieval	Corrected SPT Values (N60)	Lithology	Plasticity Index
					Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors. Rock Description: modifier, color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions, other descriptors.	
1					0.0' - 2.0': FILL - Asphalt over sandy gravel and cobble fill.	
2					2.0' - 15.0': FLOOD PLAIN AND SWAMP DEPOSITS - Intermixed clay, silt, sand, and gravel. - dark brown, moist cuttings, easy drilling. 5.0' - 6.5': Silty clay, dark brown, moist, soft, highly plastic. - groundwater at 15.0' at time of drilling. - gravel lenses from 7'-12'. - continued easy drilling. 10.0' - 11.5': Silty clay, grey brown, moist, very soft, highly plastic, organics. - easy, quiet drilling.	
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17					Bottom of borehole at 16.5' below the ground surface. Groundwater observed at approximately 15.0' at time of drilling.	

Project: JH Boutique Hotel		Project Number: 1703.1		Client: Mogul Capital		Borehole No. BH-6		
Site Location: West side of 45 Mercill Ave., Jackson, WY				Drilling Contractor: LK Drilling		Drill Type: Simco 2800		
Logged By: JR		Date	Started: 4/22/2017		Operator: Steve		Weather: Clear	
Elevation: ~6,224'			Completed: 4/22/2017		Groundwater Depth: ~4'		Total Depth of Borehole: 16.5'	
Borehole Location: Parking lot behind Pioneer Motel, off of alley, see Figure 2				Monitoring Well Notes: 2-inch diameter well. Screened from 0.0'-10.0'.				
Surface Description: Parking lot				Other: Rope and cat head used. 2"-diameter split spoon used for sampling.				

Depth (feet)	SPT Interval	Sample Type and Number	Sample Retrieval	Corrected SPT Values (N60)	Lithology	Plasticity Index
					Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors. Rock Description: modifier, color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions, other descriptors.	
1					0.0' - 1.5': FILL - Asphalt over sandy gravel and cobble fill.	
2					1.5' - 11.5': FLOOD PLAIN AND SWAMP DEPOSITS - Intermixed clay and silt. - groundwater at 4.0' at time of drilling.	
3						
4						
5						
6		SS 6-1	12"/18"	2	5.0' - 6.5': Silty clay, dark brown, wet, very soft, highly plastic.	
7					- continued easy drilling.	
8						
9						
10						
11		SS 6-2	10"/18"	11	10.0' - 11.5': Silty clay, dark brown, wet, stiff, highly plastic, gravel in shoe.	
12					11.5' - BOH: ALLUVIUM - Sandy gravel and cobbles, medium brown, wet, medium dense. - grinding from 11.5' to 15.0'	
13						
14						
15						
16		SS 6-3	4"/18"	22	15.0' - 16.5': Sandy gravel and cobbles, medium brown, medium dense, wet.	
17					Bottom of borehole at 16.5' below the ground surface. Groundwater observed at approximately 4.0' at time of drilling.	

Project: JH Boutique Hotel		Project Number: 1703.1		Client: Mogul Capital		Borehole No. BH-7		
Site Location: W side of 335 N Cache, Jackson, WY				Drilling Contractor: LK Drilling		Drill Type: Simco 2800		
Logged By: JR		Date	Started: 4/23/2017		Operator: Steve		Weather: Clear	
Elevation: ~6,222'			Completed: 4/23/2017		Groundwater Depth: ~5.0'		Total Depth of Borehole: 76.5'	
Borehole Location: West side of Lewis and Clark parking lot, see Figure 2				Monitoring Well Notes: 2-inch diameter well. Screened from 30.0'-40.0'.				
Surface Description: Asphalt driveway				Other: Rope and cat head used. 2"-diameter split spoon used for sampling.				

Depth (feet)	SPT Interval	Sample Type and Number	Sample Retrieval	Corrected SPT Values (N60)	Lithology	Plasticity Index
1					0.0' - 2.0': FILL - Asphalt and sandy gravel and cobble fill.	
2					2.0' - 24.5': FLOOD PLAIN AND SWAMP DEPOSITS - Intermixed and interbedded clay, silt, sand, and gravel.	
3						
4						
5						
6						
5		SS			5.0' - 6.5': Silty clay, dark brown, moist, soft, highly plastic, some organics. - groundwater observed at ~5.5' at time of drilling.	
6		7-1	13"/18"	3		
7						
8						
9						
10		SS			10.0' - 11.5': Sandy clayey gravel, medium brown, wet, medium dense.	
11		7-2	8"/18"	19		
12						
13						
14						
15		SS			15.0' - 16.5': Silty clay, grey brown, moist, very soft, highly plastic, fossiliferous.	
16		7-3	18"/18"	2		
17						

Project: JH Boutique Hotel					Project Number: 1703.1	Client: Mogul Capital	Borehole No. BH-7
Depth (feet)	SPT Interval	Sample Type and Number	Sample Retrieval	Corrected SPT Values (N60)	Lithology		Plasticity Index
					Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors. Rock Description: modifier, color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions, other descriptors.		
18					FLOOD PLAIN AND SWAMP DEPOSITS, continued from Page 1 20.0' - 21.5': Silty clay, light brown/yellow tan, moist, very soft, plastic, fossiliferous.		
19							
20							
21							
22							
23					24.5' - BOH: ALLUVIUM - Sandy gravel and cobbles. 25.0' - 26.5': Sandy cobbles and gravel, dense, wet, fragments in shoe indicate larger clasts than the sampler diameter, moderately difficult drilling. 30.0' - 31.5': Sandy cobbles and gravel, dense, wet, fragments in shoe indicate larger clasts than the sampler diameter, moderately difficult drilling. - heavy grinding. - heaving sands. 35.0' - 36.5': Silty sandy gravel and cobbles, medium brown, wet/saturated, dense.		
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							



Page: 2 of 4

Borehole: BH-7

Project: JH Boutique Hotel

Location: W side of 330 N Glenwood, Jackson, WY

Project: JH Boutique Hotel				Project Number: 1703.1	Client: Mogul Capital	Borehole No. BH-7
Depth (feet)	SPT Interval	Sample Type and Number	Sample Retrieval	Corrected SPT Values (N60)	Lithology	Plasticity Index
					<u>Soil Group Name:</u> modifier, color, moisture, density/consistency, grain size, other descriptors. <u>Rock Description:</u> modifier, color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions, other descriptors.	
40					ALLUVIUM, continued from Page 2	
41						
42						
43						
44						
45		SS			45.0' - 46.5': Sandy cobbles and gravel, dense, wet, fragments in shoe indicate larger clasts than the sampler diameter.	
46			9"/18"	50		
47						
48						
49						
50						
51						
52						
53						
54						
55		SS			55.0' - 56.5': Sandy cobbles and gravel, dense, wet, fragments in shoe indicate larger clasts than the sampler diameter.	
56			10"/18"	50		
57						
58						
59						
60						
61						
					Page: 3 of 4 Borehole: BH-7 Project: JH Boutique Hotel Location: W side of 330 N Glenwood, Jackson, WY	

Project:		Project Number:		Client:		Borehole No.	
JH Boutique Hotel		1703.1		Mogul Capital		BH-7	
Depth (feet)	SPT Interval	Sample Type and Number	Sample Retrieval	Corrected SPT Values (N60)	Lithology		Plasticity Index
					Soil Group Name: modifier, color, moisture, density/consistency, grain size, other descriptors. Rock Description: modifier, color, hardness/degree of concentration, bedding and joint characteristics, solutions, void conditions, other descriptors.		
62					ALLUVIUM, continued from Page 3		
63					- sand or clay lens from 60'-64'.		
64							
65		SS			65.0' - 66.5': Sandy clayey gravel, red brown, moist, very dense, indurated, difficult drilling.		
66			8"/18"	50/5"			
67					- broke free of hard layer at 67'.		
68					- gravel from 67'-68'.		
69					- easier drilling from 68'-70'.		
70					- gravel layer at 70'.		
71							
72							
73					- easy drilling from 73'-75'.		
74							
75		SS			75.0' - 76.5': Sand, grey brown, wet/saturated, dense, fine-grained, well sorted.		
76		7-5	10"/18"	48			
77					Bottom of borehole at 76.5' below the ground surface.		
78					Groundwater observed at approximately 5.5' at time of drilling.		
79							
80							
81							
82							
83							
					Page: 4 of 4 Borehole: BH-7 Project: JH Boutique Hotel Location: W side of 330 N Glenwood, Jackson, WY		



Teton Geotechnical

APPENDIX B

Strata Laboratory Test Results



Summary of Test Results

Project: JH Boutique Hotel 1703.1

Client: Teton Geotechnical

Tested By: O. Martinez

Specimen Preparation: Wet

Project Number: IF17034A

Date: 5/17/2017

Location	Depth (feet)	Lab Number	Atterberg			Fines Class
			LL	PL	PI	
BH 2-2	10	IF1700037	43	21	23	CL
BH 2-3	15	IF1700038	98	53	45	MH
BH 3-2	10	IF1700039	36	20	16	CL
BH 4-1	5	IF1700040	62	25	37	CH
BH 5-2	10	IF1700041	34	16	18	CL
BH 6-2	10	IF1700042	31	16	15	CL
BH 7-3	15	IF1700043	70	40	30	MH
BH 7-4	20	IF1700044	NV	NP	NP	ML

NV = No Value NP = Non-Plastic

Reviewed By:



Teton Geotechnical

APPENDIX C

Corrected N60 Spreadsheet

Jackson Boutique Hotel
Blow Count Data



Uncorrected N Values							
Depth	BH-1	BH-2	BH-3	BH-4	BH-5	BH-6	BH-7
5	13	8	2	3	5	2	3
10	16	3	3	10	2	11	18
15	14	3	2	2	32	22	2
20			3				2
25							32
30							16
35							34
45							36
55							36
65							50/5.5"
75							35

Corrected N Values							
Depth	BH-1	BH-2	BH-3	BH-4	BH-5	BH-6	BH-7
5	13	8	2	3	5	2	3
10	17	3	3	10	2	11	19
15	16	4	2	2	38	26	2
20			4				2
25							42
30							21
35							47
45							50
55							50
65							50/5.5"
75							48

	Value from Table			
Hammer Efficiency (Em)	0.6			
Borehole Diameter Correction (Cb)	1.15			
Sampler Correction (Cs)	1.2			
Rod Length Correction (Cr)	0.75	0.85	0.95	1

$$N_{60} = \frac{Em * Cb * Cs * Cr * N}{0.60}$$

TABLE 4.4 BOREHOLE, SAMPLER, AND ROD CORRECTION FACTORS		
Factor	Equipment Variables	Value
Borehole diameter factor, C_B	2.5 - 4.5 in (65 - 115 mm)	1.00
	6 in (150 mm)	1.05
	8 in (200 mm)	1.15
Sampling method factor, C_S	Standard sampler	1.00
	Sampler without liner (not recommended) (generally used)	1.20
Rod length factor, C_R	10 - 13 ft (3 - 4 m)	0.75
	13 - 20 ft (4 - 6 m)	0.85
	20 - 30 ft (6 - 10 m)	0.95
	> 30 ft (> 10 m)	1.00

Adapted from Skempton (1986).



Teton Geotechnical

APPENDIX D

WDEQ LAUST Project Results

8.0 PROJECT RESULTS – CACHE CHEVRON (0-001535), TETON TEXACO (0-003436), AND AMERICAN LEGENDS GALLERY (0-003882)

The Cache Chevron, Teton Texaco, and American Legends Gallery sites are grouped together owing to their close physical proximity. Cache Chevron is located at 401 North Cache Street (Figure 2-1b). Teton Texaco is located at 375 North Cache Street, directly south of Cache Chevron, and is the present location of Eagle Rent-A-Car. American Legends Gallery is located at 355 North Cache Street, adjacent to and south of the Teton Texaco property.

8.1 INVESTIGATION RESULTS

The following discussion of investigation results provides an integration of past and current information regarding site background, soil conditions, groundwater conditions, potential receptors, and slug tests. A list of investigative activities performed by Dames & Moore during the 1999 ASA is included in the Site Background Section below. Tables 8-1 and 8-2 contain summaries of BTEXNM, TPH-DRO, TPH-GRO, cadmium, chromium, and lead concentrations in soil and groundwater samples from the SSI and ASA investigations. WDEQ recommended SCCs for oral exposure, and MCLs/DWELs for ingestion of groundwater are included in the tables for comparison. VOCs detected in soil or groundwater samples collected during the 1999 ASA are included in Tables 3-4 and 3-9 (Section 3.0).

8.1.1 Site Background

The following discussion of site background addresses each site separately.

The **Cache Chevron** property has been occupied by gas stations for more than 47 years. In 1988, five gasoline USTs were removed from the area where the current tank basin is located, on the south side of the service station. These tanks included three 3,000-gallon tanks, one 6,000-gallon tank and one 12,000-gallon tank. A 500-gallon waste oil UST and a 1,000-gallon heating oil UST were removed from the west side of the service station building. The location of these tank basins and other site features are shown on Figure 8-1.

In 1988 during tank removal activities, a spill of 550 gallons of gasoline occurred when one tank was ruptured. At the time some of the spilled fuel was reportedly recovered and impacted soil was excavated for off-site disposal. During the fall of 1988, a release of an estimated 1,076 gallons of gasoline occurred as the result of an underground line leak. Some of this product was

recovered. A groundwater recovery system operated on the property prior to 1990. Site investigations comprised of test borings, monitoring well installations, and groundwater sampling were conducted on the property prior to 1990.

At the **Teton Texaco** in 1989, petroleum hydrocarbons were detected in soil and groundwater during a limited subsurface investigation of the Teton Texaco property. This effort included the installation and sampling of groundwater monitoring wells.

In 1990, four USTs were removed from the site, including two 6,000-gallon gasoline tanks, one 500-gallon waste oil tank, and one 500-gallon heating oil tank. During tank removal activities, approximately 186 tons of contaminated soil was removed from the tank basins and replaced with clean fill. The locations of the tank basins and other site features are shown on Figure 8-1.

In 1974 at the **American Legends Gallery**, three USTs of unknown size and contents were reportedly removed from the American Legends Gallery property. No documentation of this removal is available. During a limited site investigation in 1991, a very strong gasoline odor was detected in excavations on the west side of the site building and free product was discovered at approximately 7 feet bgs. This area is shown in outline on Figure 8-1.

In 1997, as part of the SSI, sewer lines in the alley west of the Teton Texaco and American Legends Gallery properties were identified as potential receptors of petroleum vapors and free product. The sewer lines in this area were field screened using a PID and no detectable concentrations of organic vapors were reported. The basements of the Cache Motel and the Sweeney residence and the crawlspace of a rental unit at the Schreiber property were identified as potential vapor receptors. Indoor air sampling for benzene and n-hexane was performed at these three locations as part of the SSI; no detectable concentrations were reported in the air samples.

In 1997, as part of the SSI, five additional borings were drilled at Cache Chevron and three of the borings were completed as monitoring wells. Fifteen additional borings were advanced to 6 to 14 feet bgs at Teton Texaco and the American Legends Gallery and eight of these borings were completed as monitoring wells. The locations of the borings are shown on Figure 8-1.

In 1997, as part of the SSI, nine existing four-inch diameter groundwater monitoring wells on the Cache Chevron site were included in the groundwater-sampling program. Five of these wells (MW-CC-3, MW-CC-TB-1, MW-CC-TB-2, MW-CC-TB-3 and MW-CC-TB-4) were located in

the immediate vicinity of the existing USTs. Four other wells (MW-CC-4, MW-CC-5, MW-CC-6 and MW-CC-7) were located along the western edge and in the northern portion of the property. The locations of these monitoring wells are shown on Figure 8-1.

The magnitude and extent of petroleum hydrocarbons in the soil and groundwater at the Cache Chevron/Teton Texaco/American Legends Gallery site were not fully defined in previous investigations. Specifically, the western extent of petroleum hydrocarbons in soil and groundwater was uncertain. Additional investigative activities performed by Dames & Moore during the ASA included:

Cache Chevron

- The installation of one additional monitoring well (MW-301) to the west of the property to further delineate the extent of groundwater contamination.
- The collection of one additional soil sample (MW-301) to the west of the property to further delineate the horizontal extent of soil contamination.
- The collection of five additional groundwater samples (from three existing monitoring wells and one new monitoring well) to characterize groundwater.
- The collection of groundwater elevation measurements during the summer and fall 1999 sampling events, and again in January 2000 to monitor seasonal fluctuations in the water table.
- Soil Treatability Study performed on contaminated soil collected from Cache Chevron property to evaluate biodegradation potential.

Teton Texaco

- The installation of one additional monitoring well (MW-300) to the west of the property to further delineate the extent of groundwater contamination.
- The collection of one additional soil sample (MW-300) to the west of the property to further delineate the horizontal extent of soil contamination.
- The collection of five additional groundwater samples (from three existing monitoring wells and one new monitoring well) to characterize groundwater.
- The collection of groundwater elevation measurements during the summer and fall 1999 sampling events, and again in January 2000 to monitor seasonal fluctuations in the water table.
- The performance of three slug tests in order to determine the hydraulic conductivity of aquifer materials.

American Legends Gallery

- The installation of one additional monitoring well (MW-375) to the west of the property to further delineate the extent of groundwater contamination.
- The collection of two groundwater samples from newly installed monitoring well MW-375 to characterize groundwater

Additional Investigative Activities

- Dames & Moore observed for seeps in the basement of the Cache Creek Motel. None were found at the time.

8.1.2 Soil Conditions

Subsurface materials at the site are comprised of clayey silts with occasional interbedded silty sands. Silt and sand layers were encountered from 10 to 12 feet and from 15 to 15.5 feet bgs in boring MW-300. Fill material consisting of sand and gravel was encountered at shallow depths at several locations and to depths of 6 to 8 feet at the tank basin locations. A geologic cross-section from monitoring well MW-300 east to MW-020 (between the Teton Texaco and American Legends Gallery buildings) is illustrated on Figure 8-2.

Table 8-1 lists TPH-DRO and TPH-GRO concentrations in soil samples collected during the 1997 SSI and 1999 ASA. During the 1997 SSI, TPH-DRO was detected in five samples at concentrations ranging from 100 mg/kg to 780 mg/kg, in exceedance of its SCC of 100 mg/kg. No other TPH-DRO concentrations were detected above its SCC during the 1997 SSI or 1999 ASA. During the SSI, TPH-GRO was detected in six samples at concentrations ranging from 34 mg/kg to 3,000 mg/kg, in exceedance of its SCC of 30 mg/kg. No other TPH-GRO concentrations were detected above its SCC during the SSI or ASA. Figure 8-3 depicts TPH-GRO and TPH-DRO concentrations in both soil and groundwater samples collected at the site during the 1997 SSI and 1999 ASA. Soil concentrations, along with sample depths are shown in brackets. Groundwater results are discussed in the following section (Section 8.1.3). The area of remedial focus shown on Figure 8-3 is based on benzene concentrations in groundwater as discussed in Section 8.1.3.

Table 8-1 lists benzene concentrations in soil samples collected during the 1997 SSI and 1999 ASA. During the 1997 SSI and 1999 ASA, benzene was detected in soil samples collected at concentrations ranging between 12 µg/kg to 12,000 µg/kg, well below its SCC of 52,000 µg/kg. Figure 8-4 depicts the benzene concentrations in both soil and groundwater samples collected at the site during the 1997 SSI and 1999 ASA.

Table 8-1 lists other BTEXNM compounds that were analyzed in soil samples collected during the SSI and ASA. Trace concentrations of other BTEXNM compounds were detected in the soil during both the SSI and ASA; however, all concentrations were well below their respective SCCs.

Soil samples collected during the SSI and ASA were analyzed for the full suite of EPA 8260 VOC compounds. No VOC concentrations were detected in exceedance of their respective SCCs in the soil samples collected from monitoring wells MW-300 and MW301 during the 1999 ASA. Results for the samples from the ASA are listed in Table 3-4 (Section 3.0). The SSI data were not integrated into this table but are available in the 1997 SSI report.

Table 8-1 lists cadmium, chromium, and lead concentrations in soil samples collected during the SSI and ASA. One soil sample from the 1997 SSI and two soil samples from the 1999 ASA were analyzed for metals. All metal concentrations were well below their respective SCCs.

8.1.3 Groundwater Conditions

Figure 6-6 (Section 6.0) shows contoured groundwater elevations and the general flow direction for the North Cache area. The Cache Chevron/Teton Texaco/American Legends Gallery site is included on the figure. The groundwater elevations are from water level measurements taken during the summer 1999 sampling event of the ASA. In the site area the general groundwater flow direction is to the west-northwest.

Table 3-8 (Section 3.0) lists casing elevations, dates measured, depths to groundwater, groundwater elevations, maximum elevation difference per well, range of depths to groundwater per site, and the maximum elevation difference in a well per site. Depths to groundwater recorded from July 1997 to January 2000 range from about 3.13 to 7.80 feet bgs across the site. Over this time period, the maximum variation in depth to groundwater in a well is 2.35 feet.

Table 8-2 lists TPH-DRO and TPH-GRO concentrations in groundwater samples collected during the 1997 SSI and 1999 ASA. TPH-DRO was not detected at concentrations that exceeded

its DWEL of 10,000 µg/L in groundwater samples collected during the SSI or ASA. TPH-GRO was detected in 8 monitoring wells during the SSI in exceedance of its DWEL of 10,000 µg/L at concentrations ranging from 17,000 µg/L to 50,000 µg/L. During the ASA, groundwater samples collected from four site wells had TPH-GRO concentrations at or above the DWEL: MW-20 (22,000 µg/L), MW-021 (10,000 µg/L), MW-022 (13,000 µg/L), and MW-300 (12,000 µg/L). Figure 8-3 depicts TPH-DRO and TPH-GRO concentrations in groundwater samples collected at the site during the 1997 SSI and 1999 ASA.

Table 8-2 lists benzene concentrations in groundwater samples collected during the 1997 SSI and 1999 ASA. During the 1997 SSI, benzene was detected at concentrations in exceedance of its MCL of 5 µg/L in 19 monitoring wells at concentrations ranging from 8 µg/L to 5,800 µg/L. During the 1999 ASA, benzene was detected at concentrations in exceedance of its MCL in eight out of the nine monitoring wells sampled in concentrations ranging from 21 µg/L to 3,300 µ/L. Benzene was detected at concentrations greater than 1,000 µg/L in monitoring wells MW-020, MW-022, and MW-300 at concentrations of 1,100 µg/L, 3,300 µg/L, 1,600 µg/L, respectively.

The highest benzene concentrations were found in three locations: 1) in wells located in the tank basin south of Cache Chevron; 2) in MW-021, located in the northeast corner of the Teton Texaco property; and 3) in the area between the American Legends Gallery building and the Teton Texaco building. Figure 8-4 depicts benzene concentrations in groundwater samples collected at the site during the 1997 SSI and the 1999 ASA.

Table 8-2 lists concentrations of other BTEXNM constituents in groundwater samples collected during the 1997 SSI and 1999 ASA. During the 1997 SSI, other BTEXNM compounds exceeded their respective MCLs. Toluene was detected at concentrations ranging from 1,600 µg/L to 5,000 µg/L, in exceedance of its MCL of 1,000 µg/L. Ethylbenzene was detected at concentrations ranging from 720 µg/L to 1,600 µg/L, exceeding its MCL of 700 µg/L. MTBE was detected in the sample collected from MW-CC-TB3 at a concentration of 910 µ/L in exceedance of its MCL of 200 µg/L. During the 1999 ASA, trace concentrations of other BTEXNM constituents were detected, but all were well below their respective MCLs.

Groundwater samples were analyzed for the full suite of EPA Method 8260 VOCs during the SSI and ASA. No additional VOC compounds were detected at concentrations exceeding MCL/DWELs in groundwater collected from the site. ASA results are reported in Table 3-9

(Section 3.0). The SSI data were not integrated into this table but are included in the 1997 SSI report.

Table 8-2 lists cadmium, chromium, and lead concentrations in groundwater samples collected during the SSI and ASA. During the 1997 SSI, lead was the only metal detected above its MCL of 0.05 mg/L at a concentration of 0.06 mg/L in the samples collected from MW-20, MW-25, and MW-CC-3. Cadmium, chromium, and lead did not exceed their respective MCLs in groundwater samples collected during the 1999 ASA.

For future monitoring activities, the existing wells at Cache Chevron were destroyed during facility remodeling in late 1999 to early 2000. These wells will be replaced during construction activities in summer 2000.

8.1.4 Potential Receptors

No immediate health or safety hazards were identified at the Cache Chevron/Teton Texaco/American Legends Gallery site during the SSI or ASA. No domestic water wells were identified in the vicinity that might be impacted from the Cache Chevron/Teton Texaco/American Legends Gallery source area.

Cache Creek flows through a culvert along the south side of the American Legends Gallery property before entering Flat Creek. Based on the available data, there are no impacts to Cache Creek or Flat Creek from sources at the Cache Chevron/Teton Texaco/American Legends Gallery site.

The 1997 SSI identified the sewer lines and basement areas west of the Teton Texaco and American Legend Gallery properties as potential vapor or free product receptors. No hazards were identified at the time of the investigation. No utilities are known to have been impacted at the site.

8.1.5 Slug Tests

Three slug tests were performed at the Cache Chevron/Teton Texaco/American Legends Gallery site during the 1999 ASA. The slug tests were used to estimate hydraulic conductivity of the subsurface saturated zone. The hydraulic conductivities were calculated utilizing three methods shown in the table below.

Estimated Hydraulic Conductivity (ft/day)

Monitoring Well I.D.	Bouwer & Rice	Hvorslev	Cooper, et. al.
MW-021	3.6	36.0	19.1
MW-300	3.8	7.5	1.8
MW-301	1.5	2.7	3.7

Although three different methods were used to calculate the hydraulic conductivity at the site, the average of the values generated using the Bouwer and Rice method for unconfined aquifers was used to estimate the hydraulic conductivity (3.0 ft/day) at the site. The Bouwer and Rice method was the most conservative and believed to be the most applicable to actual site conditions.

8.2 CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations in the form of remedial action alternatives are based on site investigation information.

8.2.1 Conclusions

Releases of petroleum hydrocarbons from USTs have affected soils and groundwater at the Cache Chevron/Teton Texaco/American Legends Gallery site.

- Subsurface materials at the Cache Chevron/Teton Texaco/American Legends Gallery site are comprised of clayey silts with occasional interbedded silty sands to a depth of at least 15.5 bgs. Fill material consisting of sand and gravel was encountered to shallow depths and to depths of 6 to 8 feet at the tank basin locations. Depths to groundwater, measured between September 1997 and January 2000, vary from 3.13 to 7.80 feet bgs across the site. The largest variation in measured depths to groundwater in an individual well was 2.35 feet.

- Site soils are impacted by petroleum hydrocarbons at depths ranging from 4 to 6 feet bgs. Because these depths correspond roughly with variations in depth to groundwater, it is concluded that most of the contamination at the site lies within the smear zone.
- Groundwater at the site is impacted by relatively high concentrations of benzene and TPH-GRO from multiple sources.
- Slug tests performed at monitoring wells MW-021, MW-300 and MW-301 gave an average estimated hydraulic conductivity of approximately 3 feet per day, indicating that soils in the area have low permeability.

8.2.2 Recommendations

Recommended Remedy: Enhancement of *In Situ* Bioremediation by ORC[®] Pressure Injection

Conventional AS/SVE was cited as the presumptive remedy in the Dames & Moore Technical Proposal for the Cache Chevron/Teton Texaco/American Legends Gallery sites. For reasons listed below, Dames & Moore recommends instead *in situ* bioremediation enhanced through the pressure injection of an oxygen release source, such as ORC[®], within the area of remedial focus at the Aspen Service portion of the site.

It is also recommended that a minimum of five new monitoring wells be installed on the Cache Chevron property, and that groundwater be monitored for a period of at least two years following the pressure injection of ORC[®] or a like product.

Rationale

ORC[®] pressure injection is recommended over conventional AS/SVE treatment for the following reasons:

- Low permeability soils at the site do not lend themselves well to remediation by conventional AS/SVE treatment or treatment by GCW technology.
- The use of conventional AS/SVE would require extensive drilling, well completion, well development, and well maintenance in a very congested part of town; the use of ORC requires only direct-push holes for the injection of the ORC[®] slurry.

- Given the relatively low, but persistent, level of contaminants at this site, it is expected that one ORC[®] pressure injection would be enough to remediate most of the site to WDEQ/DWQ's standards. However, some portions of the site will likely require a second or third injection of ORC[®] or a like product.
- A minimum of two years of groundwater monitoring is recommended in order to monitor contaminant migration in the low flow aquifer.

Figure 8-5 shows the locations of proposed ORC[®] injection points, and the locations of proposed monitoring wells.

8.3 COST ESTIMATION

The remedial plan for the Cache Chevron/Teton Texaco/American Legends Gallery site was based ultimately on considerations other than cost, as explained in Section 8.2 above, although cost was a decision factor. The engineering cost estimation broken out in the table below is expected to be accurate within +/- 30 percent in year 2000 dollars. The expected project life is estimated at two years. Direct costs listed in the table include costs associated with the material and labor required to complete the ORC[®] injections. Indirect capital costs include engineering design and specification, construction management and contingencies. O&M costs include only sampling and analysis of selected monitoring wells. Decommissioning and close-out costs include the plugging and abandonment of all monitoring wells on the site and producing a final report.

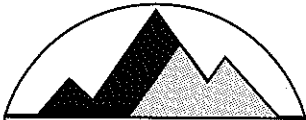
Activity	Cost Per Activity (\$1000)	Number of Units	ORC Injection (\$1000)
Direct Costs	\$93	1	\$93
Indirect Capital Costs	\$25	1	\$25
O&M Costs (Annual)	\$49	2	\$98
Decommissioning and Closeout Costs	\$21	1	\$21
Salvage Value	\$0	0	\$0
Project Life (years)	2		
Total Project Cost (year 2000 dollars)			\$237



Teton Geotechnical

APPENDIX E

WAI Project Report



WOMACK & ASSOCIATES, INC.

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• Geotechnical Engineering

• Geology

January 18, 2008

Mr. Reed Armijo
Jorgensen Associates, P.C.
PO Box 9550
Jackson, WY 83002

RE: GEOTECHNICAL SITE INVESTIGATION, HEIDER PROPERTY, NORTH CACHE STREET, JACKSON, WYOMING

Dear Reed:

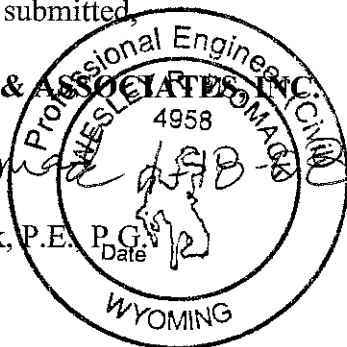
We are pleased to present this report on our geotechnical site investigation for the proposed development of the Heider property at the intersection of Perry Street and North Cache Street. Three copies are enclosed. The report describes site conditions and presents conclusions and recommendations regarding foundation construction.

If you have any questions about this report, or if we may provide other services to you, please contact us. As the project progresses, we will be available to answer questions for you.

Respectfully submitted,

WOMACK & ASSOCIATES, INC.

Ray Womack
Ray Womack, P.E.
Date *1/18/08*



Enclosure: Reports

GEOTECHNICAL INVESTIGATION REPORT
HEIDER PROPERTY
JACKSON, WYOMING

Prepared for:

Reed Armijo
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PO Box 9550
Jackson, WY 83002

Prepared by:

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January 18, 2008

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1.0 INTRODUCTION

As authorized by Reed Armijo, Womack & Associates (WAI) conducted a geotechnical investigation of the Heider property at the intersection of Perry St. and North Cache St. in Jackson, Wyoming (Figure 1). The purposes were to investigate subsurface soil and groundwater conditions, evaluate soil-engineering properties, and to provide recommendations for foundation construction.

2.0 PROPOSED CONSTRUCTION

As we understand it, preliminary plans call for the entire lot to be occupied by a 3-story residential building with first floor parking and no basement.

3.0 INVESTIGATION PROCEDURES

3.1 Field Investigation

The field investigation conducted on November 19 and 20, 2007 consisted of drilling and logging of four exploratory boreholes, each to a depth of about 32 feet below ground surface (bgs). Standpipe piezometers were not installed due to the presence of 10 DEQ monitoring wells at the site. Borehole locations are shown on Figure 2 and estimated DEQ monitoring well locations are shown on Figure 3.

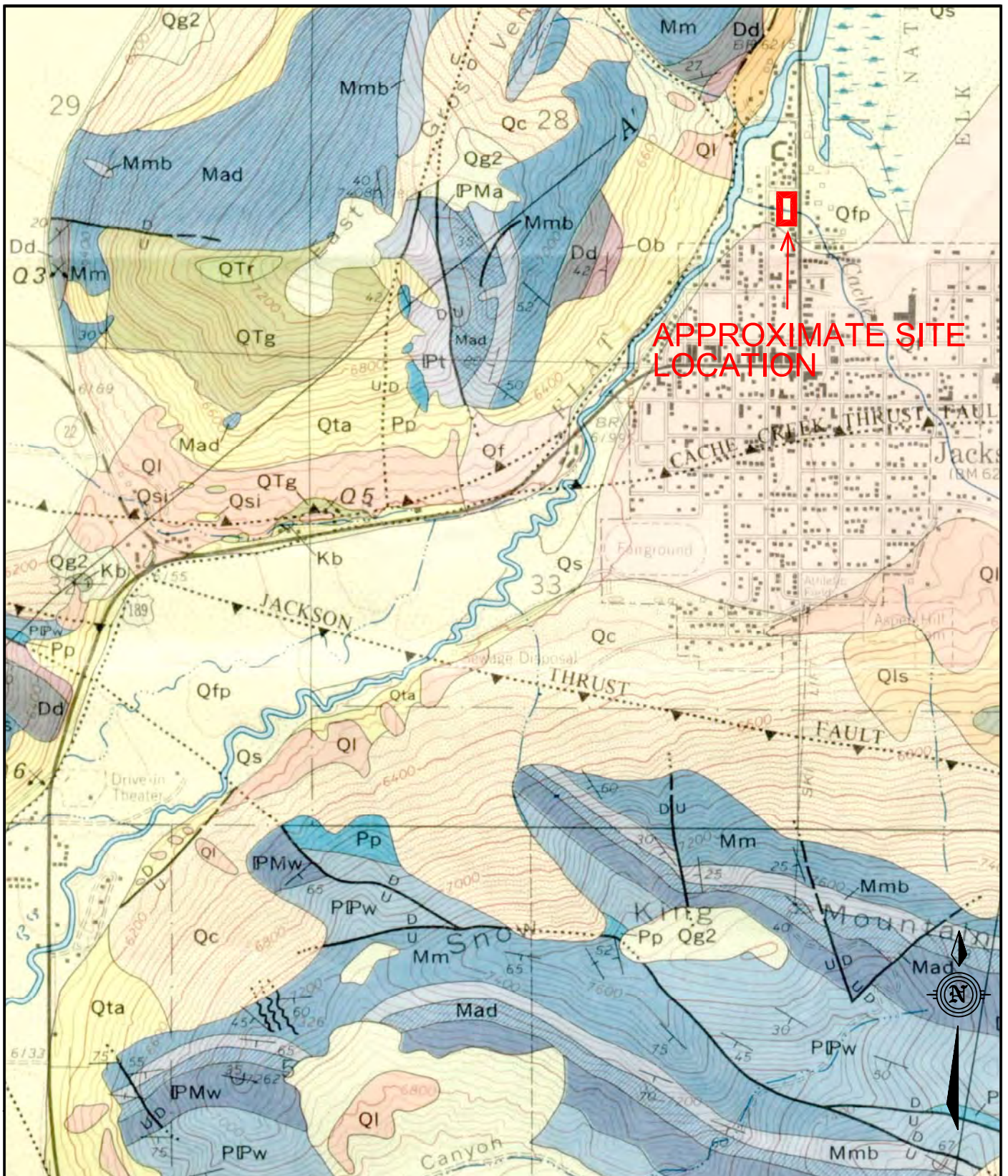
Soil types, thickness, and consistencies were observed and documented by an engineering geologist. Note that site conditions may be variable and actual soil conditions may differ from those represented in the borehole logs.

3.2 Laboratory Analysis

Laboratory testing on select soil samples included moisture content, particle size distribution, Atterberg limits, and consolidation tests. Laboratory results are included in Appendix C

3.2.1 Fine-grained soils

The fine grained soils were classified as low plastic clays, low plastic silts, and low plastic organic silts (CL, ML, and OL in the USCS) with Liquid Limits (LL) ranging from 30 to 43 and plasticity indexes (PI) ranging from 5 to 12. Grain size analysis performed on sample U1 from borehole BH 4 indicate that the sample contained 81% fines (silt and clay sized particles). Moisture contents were very high (25 to 60%), indicating high organic content. The sample with moisture content of 60% (BH-1 at 20 feet) had a LL of 57 and very low PI, a further indication of high organic content. These materials are swamp deposits, essentially peat. As such, they would be expected to be highly compressible. One consolidation test performed for a sample from BH-4 at 10 feet exhibited rather moderate compressibility, but other indicators showed that it is not highly organic and is not believed to be representative of the highly compressible organic soils that dominate the site.



Map Symbols:

Qal - Alluvium

Qfp - Flood Plain Deposits

Qta - Talus

Ql - Loess

Qg2 - Glacial Deposits

QTc - Conglomerate

SCALE: 1" = 1500'

Qc - Colluvium

Qs - Swamp Deposits

Qf - Alluvial Fan

From Love et al, 1972, Geologic Map of the Jackson Quadrangle, Teton County, Wyoming

Geotechnical Site Investigation
Jorgensen - Heider Property
Jackson, Wyoming

Site Location and
Geologic Map

FIGURE

1

UPDATE TIME:

\\jh \08012008;c:\Jorgensen\NorthCache\GeolMap.dwg



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3.2.2 Coarse-grained soils

Grain size analysis performed on sample D5 from borehole BH-3 indicated that the sample contained approximately 48% gravel, 19% sand, and 33% fines. The coarse-grained soils occur below about 20 to 25-foot depth.

3.3 Report Preparation

The report presents the site conditions, borehole logs, location maps, engineering analyses, and recommendations.

4.0 SITE CONDITIONS

4.1 Description

The site is located about 600 feet east of the channel of Flat Creek at the intersection of Perry Street and North Cache Street. Several buildings and businesses currently occupy the site and most of the ground surface is covered by asphalt concrete or gravel paving.

4.2 Geology

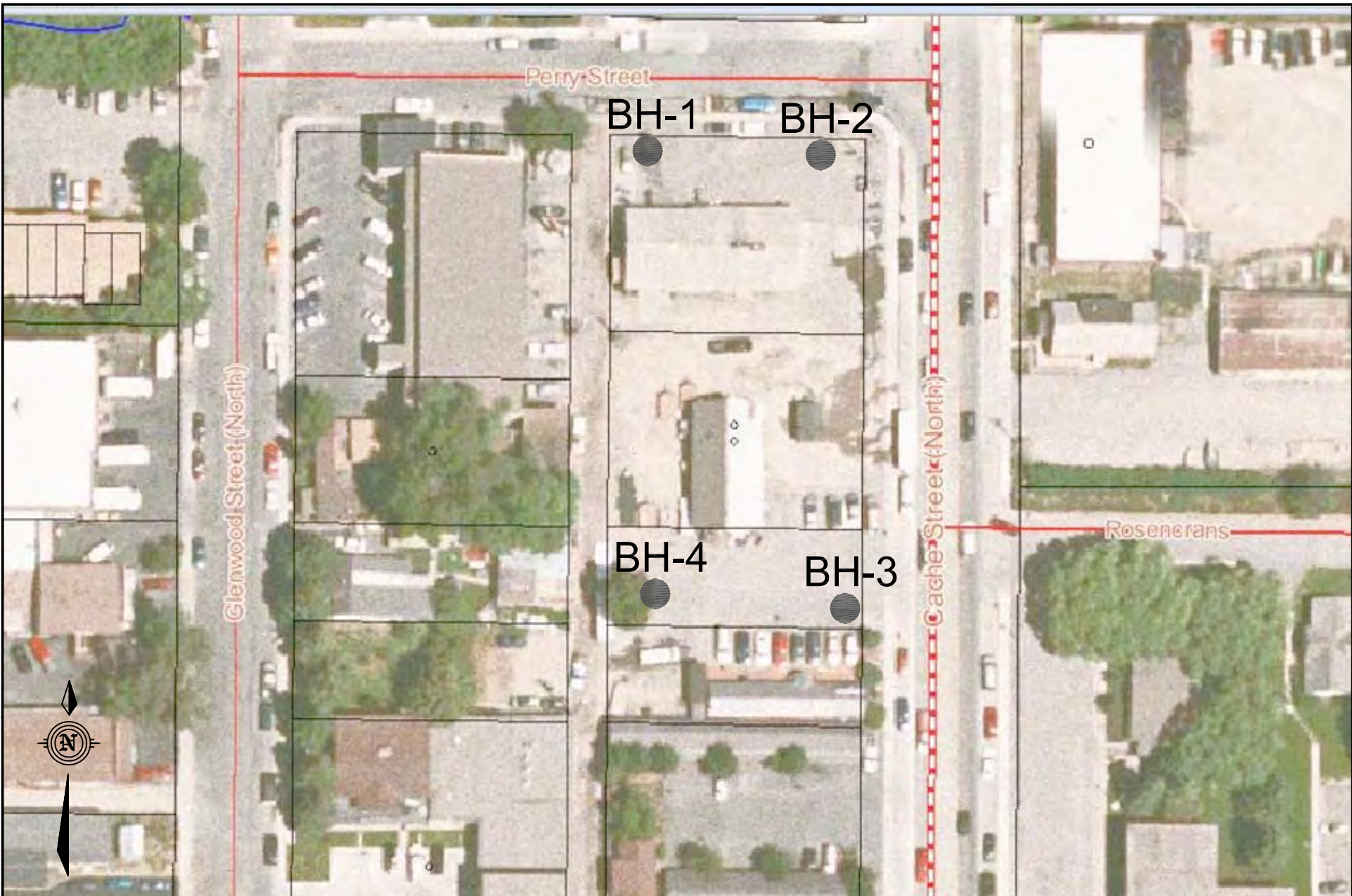
Figure 1 shows the generalized geology for the Jackson area (Love, et al, 1972). Most of the north end of the town of Jackson, including the project site, is mapped as Quaternary flood plain deposits (Qfp) consisting of gravel, sand, silt, and clay and swamp deposits (Qs). The organic soils that occur down to about 25 feet appear to be swamp deposits. The gravel below 25 feet appears to be a flood plain deposit. Bedrock was not encountered in any of the boreholes, and depth to bedrock is unknown.

The inferred (buried) traces of the Cache Creek and Jackson thrust faults are located approximately half a mile and one mile south of the site, respectively. These faults are considered to be relatively old and inactive and do not affect the project. The Teton fault at the base of the Teton Range about 6 miles west of the site is considered to be seismically active.

4.3 Soils

The 4 boreholes were consistent in the materials encountered. A layer of coarse fill about 3 feet thick was placed over the site in the past to accommodate construction. Underlying the fill to a depth of approximately 25 feet is very soft to soft clay and silt, sometimes highly organic, likely deposited in a low energy alluvial or swamp environment. Corrected $(N_1)_{60}$ blow counts in the silt and clay ranged from 0 to 14 blows per foot (bpf). Borehole data is summarized in Appendix B.

Coarse-grained clayey sandy gravel alluvium underlies the fine-grained material from a depth of approximately 25 feet to the bottom of the boreholes. The material was generally described as moist to wet, reddish and tan brown, medium dense to very dense, and angular. Corrected $(N_1)_{60}$ blow counts in the gravel ranged from about 40 to over 100 bpf.



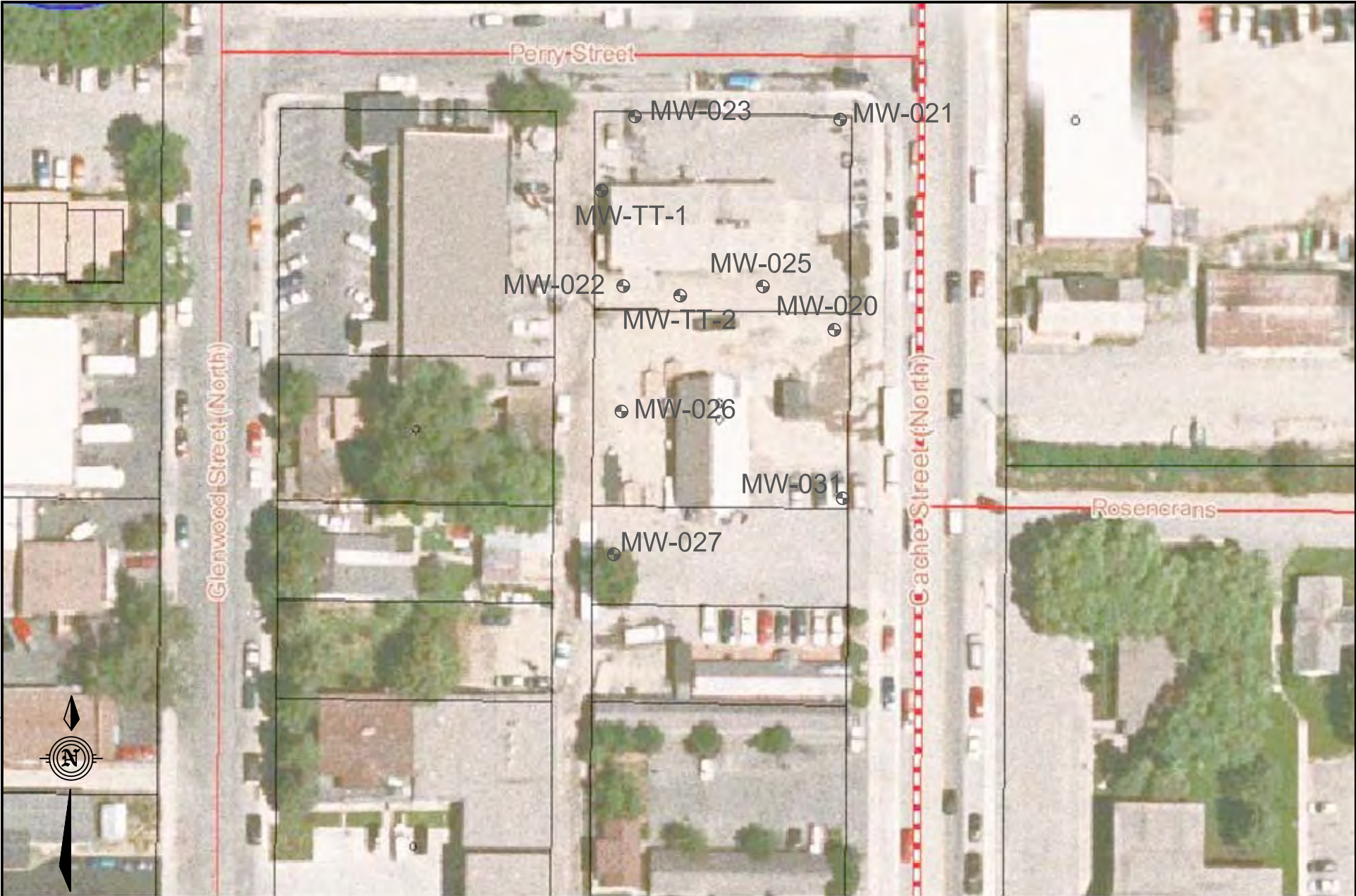
Scale: 1" = 70'

Geotechnical Investigation Report
Jorgensen – Heider Property
Jackson, Wyoming

Borehole Location Map

FIGURE

2



Scale: 1" = 70'
* DEQ Monitoring well locations estimated

Geotechnical Investigation Report
Jorgensen – Heider Property
Jackson, Wyoming

Wyoming DEQ LAUST
Monitoring Well Locations

FIGURE
3

4.4 Groundwater

On December 10, 2007, groundwater levels of 5.2 and 5.8 feet BGS were measured in DEQ monitoring wells MW-020 and MW-021, respectively. Groundwater levels in early December are typically lower than those experienced in May and June. As such, these results probably represent an upper bound on groundwater depth. Monitoring should be performed during the spring runoff season to determine peak groundwater levels.

According to figures provided by Jorgensen, the piped reach of Cache Creek appears to cross under the south portion of the property. The condition of the pipe is not known to us; the owner should be aware that leaks in the pipe may be possible.

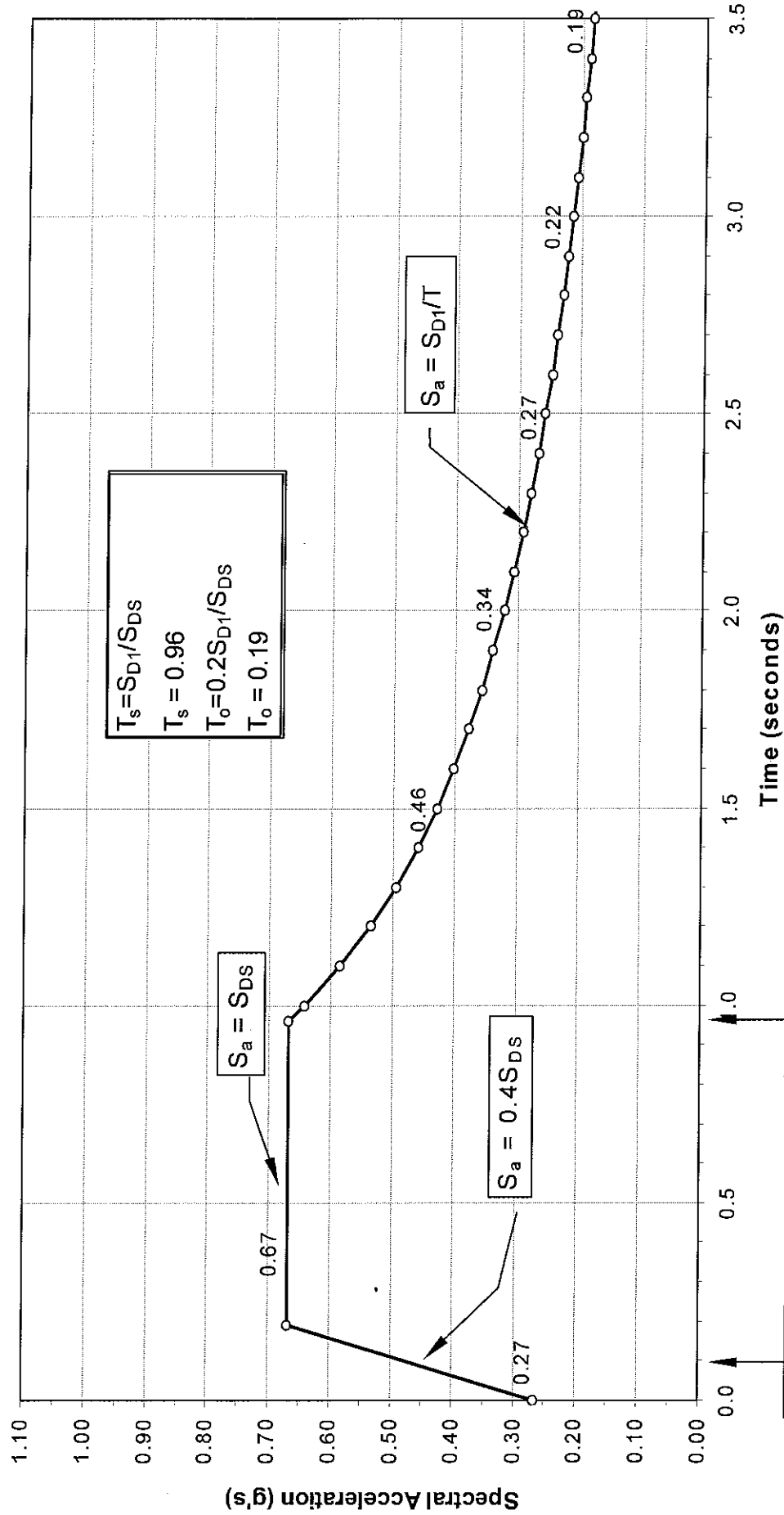
4.5 Earthquakes and Ground Shaking

Jackson Hole is located within the Intermountain Seismic Belt, a zone of seismicity that extends from southern Utah through eastern Idaho and western Montana and encompasses western Wyoming and the Teton Range (Smith and Arabasz, 1991). The Teton fault is located along the eastern margin of the Teton Range about 6 miles west of the site, and is considered an important structural element of the Intermountain Seismic Belt.

Ground motion accelerations and design response spectra were derived in accordance with the general procedure defined in the 2006 International Building Code (IBC). The provisions of the 2006 IBC are intended to provide uniform levels of performance for structures, depending on their occupancy and use and the risk inherent to their failure.

The approach adopted in the 2006 IBC is intended to provide a uniform margin of safety against collapse at the *design* ground motion. The *design* earthquake ground motion is selected at a ground shaking level that is $2/3$ of the *maximum considered earthquake* (MCE) ground motion. The Site Ground Motion and Design Response Spectrum for the 2006 IBC is presented in Figure 3 and seismic parameters are listed below. According to procedures outlined in section 1613.5.5 of the IBC, the site classifies as a site class E (Soft Soil Profile), largely due to the soft clayey soils within the upper 25 feet of the ground surface. The highly organic soils encountered in some portions of the profile do not appear to be thick enough to push the site into class F.

Design Response Spectrum (2006 IBC) - Site Class E Heider Property, Jackson, Wyoming



Geotechnical Investigation Report
Jorgensen - Heider Property
Jackson, Wyoming

Design Seismic
Response Spectrum

FIGURE

4



Earthquake Loads – Site Ground Motion and Design Response Spectrum 2006 International Building Code (IBC)

Approximate Site Location: **Latitude = 43.485° Longitude = 110.763°**

Mapped Maximum Considered Earthquake (MCE) Spectral Response Acceleration Parameters:

Short Period (S_s) = **1.114**

1-Sec Period (S_1) = **0.402**

Site Class Definition:

E – Soft Soil Profile

Site Coefficients and Adjusted MCE Spectral Response Acceleration Parameters:

S_{MS} = **1.003**

S_{M1} = **0.965**

F_a = **1.9**

F_v = **2.4**

Design Spectral Response Acceleration Parameters:

S_{DS} = **0.668**

S_{D1} = **0.643**

4.6 Liquefaction Potential

Loose, saturated sands and silty sand, and in some cases silt and gravel, may liquefy when exposed to seismic shaking. Groundwater levels at this site may be within 4 to 5 feet of the surface seasonally. Although it is very soft, the fine grained alluvium within the upper 25 feet does not appear susceptible to liquefaction. The underlying gravel alluvium is generally regarded as being too coarse-grained, dense, and contains too many fines to be susceptible to liquefaction.

5.0 ENGINEERING ANALYSIS AND RECOMMENDATIONS

5.1 Settlement

A consolidation test was performed on sample U1 from borehole BH-4 indicated modest settlement of less than one inch. However, it is clear that settlement is highly likely to be much larger than this, considering the high organic content of much of the soil profile. It appears that the sample tested may represent an upper bound on unit weight of the clay and silt soils at the site. The dry unit weight of sample BH-4 U1 was 100 pcf; recent consolidation testing on organic silt soil within the vicinity indicated a dry unit weight of about 78 pcf and much larger potential for settlement. Using consolidation data from the organic silt, primary consolidation estimates for 2 foot wide footings loaded to 2,500 psf would be on the order of 3 inches, perhaps more.

In our opinion it is rational to assume that settlement potential of the fine-grained material may be on the order of several inches, and therefore, foundation elements should not bear directly on the silty clay or organic material encountered in the upper 25 feet of the boreholes. Deep foundations should

be installed such that building loads are transferred to the coarse grained sandy gravel material below about 25 feet. Section 5.4 discusses deep foundation options and recommendations.

5.2 Lateral Pressures

Table 5-1: Lateral Earth Pressure Parameters

Condition	Coefficient of Earth Pressure	γK (equivalent fluid pressure)
Static Conditions		
Level Backfill	$K_o = 0.53$	58 pcf
	$K_a = 0.36$	40 pcf
	$K_p = 2.77$	305 pcf
Earthquake Conditions		
Level Backfill	$K_{ae} = 0.43$	47 pcf
	$K_{pe} = 2.58$	284 pcf

* Assumes unit weight of backfill of 110 pcf

** Assumes friction angle of 28 deg for backfill material

Lateral pressures against foundation and retaining walls can be estimated using several methods, and there is no overwhelming consensus favoring any one technique. We have used what we believe to be reasonably conservative values that can be justified from normal practice and the technical literature. The main variables are assumptions regarding seismic forces, wall friction, and surcharge pressures created by slopes. As discussed above, the Jackson Hole area is potentially susceptible to ground shaking from earthquakes. A maximum horizontal seismic acceleration k_h in bedrock of 0.22g has been selected for this site (USGS). Lateral pressures have been calculated assuming horizontal backslope conditions. Table 5-1 summarizes lateral pressure parameters applicable to the site.

5.2.1 Active Pressures

For lateral pressure design of retaining walls, which are allowed to deflect and develop an active soil wedge, the calculated equivalent fluid pressure (γK_a) is about 40 pcf (pounds per cubic foot), assuming a horizontal ground surface behind the retaining wall. This pressure distribution would be equivalent to a force of approximately $20H^2$ pounds per horizontal foot of wall acting at one-third the wall height (H) above the base.

Research has indicated that lateral pressures due to earthquakes are non-hydrostatic in distribution, and the resultant acts above the lower third-point of the wall (Bakeer, et al, 1990). Accordingly, active soil pressures have been divided into two components that act at different wall heights. The static force acts at the lower third-point, as discussed above. The Mononobe-Okabe equations are often used to estimate dynamic forces against retaining walls. Although there is considerable debate about the theoretical applicability of these equations to rigid walls, they have been used for many

years for seismic design and the performance record of underground walls during earthquakes has generally been good. The Mononobe-Okabe equations were applied using half the maximum horizontal acceleration (Bowles, 1996; Whitman, 1990). This force would be in addition to static active earth pressure, equivalent to $3.5H^2$ pounds per horizontal foot of wall applied at 50% of the wall height above the base.

5.2.2 Passive Pressures

For passive pressures, an equivalent fluid pressure (γK_p) of about 305 pcf was estimated for static conditions and about 284 pcf for seismic conditions. Passive earth pressures were calculated using the Coulomb and Mononobe-Okabe equations, respectively (Bowles, 1996).

5.2.3 At-Rest Pressures

For lateral pressure design of foundation walls, which are restrained and not allowed to deflect, the calculated at rest earth pressure (γK_o) is about 58 pcf, assuming a horizontal ground surface behind the foundation wall. Use the at-rest pressure or the active pressure under seismic conditions for foundation wall design, whichever is greater.

5.3 Foundations

The building should not bear directly on the fine-grained materials in the immediate subgrade. Instead, deep foundations should be installed that bear on the clayey sandy gravel approximately 25 feet below the ground surface. Helical piers are recommended because they are self testing for bearing capacity during installation. Micropiles may also be feasible, depending on the owner's preference. Grade beams and a structural floor would be supported by the deep foundation system.

All piers should end-bear and be socketed into the gravel. A Structural Engineer should determine pier spacing and placement, and design grade beam and structural floor reinforcement. A qualified Structural Engineer should be engaged to provide the design, in consultation with our Geotechnical Engineer. In general, minor cracks in the foundation walls, floors, and sheetrock are normal and should not be a cause for concern.

Seasonal groundwater level fluctuations may result in wetting of the floor slab. The elevation of the floor slab should be set with respect to the peak groundwater elevation, which is likely to be above 5-foot depth. Waterproofing will be required if the slab is set below the groundwater table.

5.3.1 Helical Piers

Depending on the product used, allowable capacities may be on the order of 50 kips per pier. Helical piers will likely be about 30 feet long, and spacing will need to be determined by a structural engineer.

5.3.2 Micropiles

Micropiles will require casing due to shallow groundwater. Micropile design should consider the load to be delivered to the tendon and assume a nominal bond strength of 2 ksf in the gravel material. The fine-grained material should be ignored. Allowable tension and compression loads are equal.

5.4 Exterior Slabs-on-Grade

Exterior slabs (sidewalks, patios, driveways, etc.) typically sustain the greatest damage. Cracking is almost impossible to avoid, and freeze-thaw adds to the difficulty caused by soil movement. The fine-grained soils may cause particularly severe frost damage. The following suggestions may reduce differential movement of exterior slabs.

Exterior slabs should be at least 4 inches thick, 6 inches if supporting vehicles. Exterior slabs should not be tied to foundation walls. Any movement of exterior slabs may be transmitted to the foundation walls, resulting in damage. Posts for patios or other exterior columns should not bear on exterior slabs, and instead should be supported by deep foundations as discussed above. If the slabs settle or rise, the movement can be transmitted to the post, resulting in damage to the structure.

Exterior slabs placed on topsoil, silt, or clay material may be very susceptible to frost heave, and any exterior flat work placed on these soils may perform poorly. Performance of the slabs may be improved by placement of at least 6 inches (preferably 12 inches) of road mix gravel beneath the slab. Expansion joints are recommended in all concrete flatwork.

The gravel should be separated from the underlying soft clay using filter fabric. The owner should understand that any exterior hardscapes will be highly vulnerable to settlement. Sensitive landscaping features are not recommended.

5.5 Final Grading

Properly compacted backfill and good site drainage are important. Exterior backfill around buildings should consist of site materials placed in lifts and lightly compacted. Exterior fills should be placed as early as possible. Utility trenches should also be backfilled in lifts and lightly compacted. Fine-grained soils are best compacted with a vibrating "sheepsfoot" roller, while granular soils will require a vibrating smooth-drum or padfoot roller for compaction.

Final grading should provide a positive drainage of at least 1 foot in the first 12 feet away from the structure unless covered by paving.

5.6 Ventilation and Radon

Evaluation of radon was beyond the scope of work; local codes should be followed and specialty contractors employed, if necessary.

5.7 Reinforcing, Concrete Considerations, and Utilities Testing

Footings, slabs, and foundation walls should be reinforced to resist differential movement. We strongly recommend consultation with a structural engineer to specify adequate reinforcement. Exterior concrete should contain 5% to 7% entrained air. We recommend pressure testing of water and sewer lines before backfilling.

5.8 Observation during Construction

A representative of this office should observe construction of any foundation or drainage elements recommended in this report, particularly installation of deep foundations. Site grading, leak-proof testing, and soil compaction should be observed by a representative of this office. If any unexpected soils or conditions are revealed during construction, this office should be notified immediately to survey the conditions and make necessary modifications.

6.0 LIMITATIONS

This report has been prepared based on a limited amount of data. Actual site conditions may vary. These services have been performed in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in this area under similar conditions. No other warranty is made or implied.

7.0 REFERENCES

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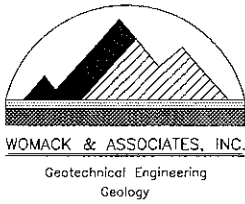
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APPENDIX A

BOREHOLE LOGS



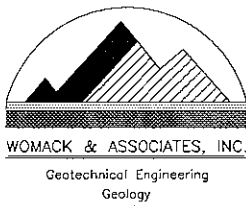
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Jackson, WY 83002
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Fax: (307) 733-8005

TEST HOLE LOG

PAGE 1 OF 1

PROJECT NAME: 375 North Cache Street							DATE: 11/19/07						
PROJECT LOCATION: Jackson, Wyoming							HOLE NO.: BH-1						
TEST HOLE LOCATION: Northwest corner													
ELEVATION G.S. (ft.):			TOTAL DEPTH (ft.): 31.5			GROUNDWATER LEVEL (ft.): NA			MEASURED FROM: Surface				
DRILL TYPE: CME-75			HAMMER: 140 # Automatic			DRILL CO: HazTech Drilling, Inc.			DRILLER: Corey		LOGGED BY: cro		
DEPTH (ft.)	GRAPHICAL LOG	SAMPLE	S.P.T. (N) BLOWS/6 IN.	(N1)60 BLOWS/FT.	RECOVERY (%)	UNCONFINED STRENGTH (TSF)	CLASSIFICATION	DESCRIPTION COMMENTS:	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMITS (%)	PLASTICITY INDEX (%)	WELL COMPLETION
1													
2													
3													
4													
5													
6		1	1,3,2	6	100		CL	5.0-6.5ft CLAY: Moist, dark brown to black, massive, very soft, organic rich [ALLUVIUM]	24.8		31	9	
7													
8													
9													
10													
11		2	1,1,2	5	100			10.0-11.5ft Silty CLAY: Moist to wet, brown gray, massive, very soft, with some 1/2" stone fragments in upper 2" [ALLUVIUM]					
12													
13													
14													
15													
16		3	0,0,2	3	97			15.0-16.5ft CLAY/silty CLAY: Moist, gray brown, very soft, massive [ALLUVIUM]					
17													
18													
19													
20													
21		4	0,0,2	3	100			20.0-21.5ft Silty PEAT: Moist to wet, tan brown then brown black in lower most 2", vert soft, massive (in lower), finely laminated (upper), with shells and red organic matter, organic rich [LAKEBEDS/ALLUVIUM]	60.5		57	NP	
22													
23													
24													
25													
26		5	16,17,16	42	61			25.0-26.5ft Sandy GRAVEL: Wet, tan, massive, dense, clayey (<10%), sandy (30%), subrounded gravel to 1/2" diameter [ALLUVIUM]					
27													
28													
29													
30													
31		6	5,8,23	38	89			30.0-30.5ft Clean medium SAND					
32								30.5-30.8ft Sandy GRAVEL					
33								30.8-31.1ft Clayey SAND					
34								31.1-31.5ft Clayey gravelly SAND: Wet, tan, massive, medium dense [ALLUVIUM]					

TEST_HOLE_LOG2 REVISED NORTH CACHE.GPJ WOMACK.GDT 1/18/08



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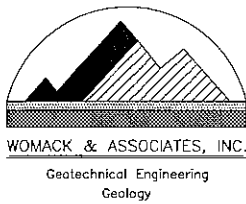
TEST HOLE LOG

PAGE 1 OF 1

PROJECT NAME: 375 North Cache Street						DATE: 11/19/07					
PROJECT LOCATION: Jackson, Wyoming						HOLE NO.: BH-2					
TEST HOLE LOCATION: Northeast corner											
ELEVATION G.S. (ft.):			TOTAL DEPTH (ft.): 31.5			GROUNDWATER LEVEL (ft.): NA			MEASURED FROM: Surface		
DRILL TYPE: CME-75			HAMMER: 140 # Automatic			DRILL CO: HazTech Drilling, Inc.			DRILLER: Corey		LOGGED BY: cro

DEPTH (ft.)	GRAPHICAL LOG	SAMPLE	S.P.T. (N) BLOWS/6 IN.	(N1)60 BLOWS/FT.	RECOVERY (%)	UNCONFINED STRENGTH (TSF)	CLASSIFICATION	DESCRIPTION	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMITS (%)	PLASTICITY INDEX (%)	WELL COMPLETION
1													
2													
3													
4													
5													
6		1	1,2,3	8	72			5.0-6.5ft CLAY: Moist, gray, massive, very soft, highly plastic [ALLUVIUM]					
7													
8													
9													
10		2	0,0,2	3				10.0-11.5ft No recovery					
11													
12													
13													
14													
15		3	0,1,1	3	56		OL	15.0-16.5ft CLAY: Moist, gray brown, massive, very soft, organic rich [ALLUVIUM]	48.4		43.3	6.9	
16													
17													
18													
19													
20		4	0,2,4	9	100			20.0-21.5ft ORGANIC SILT: Moist, tan brown, soft, massive [LAKEBEDS/ALLUVIUM]					
21													
22													
23													
24													
25		5	9,14,17	41	67			25.0-25.4ft Clean loose SAND 25.4-26.5ft Clayey sandy GRAVEL: Moist to wet, red tan brown, medium dense, gravel to 1/2" diameter [ALLUVIUM]					
26													
27													
28													
29													
30		6	11,19,21	49	58			30.0-31.5ft Clayey sandy GRAVEL: Moist to wet, tan brown, massive, medium dense, angular gravel to 3/4" diameter [ALLUVIUM]					
31													
32													
33													
34													

TEST_HOLE_LOG2 REVISED NORTH CACHE GPJ WOMACK.GDT 1/17/08



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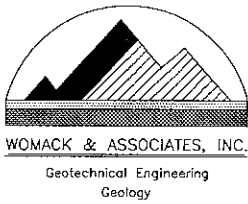
TEST HOLE LOG

PAGE 1 OF 1

PROJECT NAME: 375 North Cache Street							DATE: 11/19/07				
PROJECT LOCATION: Jackson, Wyoming							HOLE NO.: BH-3				
TEST HOLE LOCATION: Southeast corner											
ELEVATION G.S. (ft.):			TOTAL DEPTH (ft.): 31.5			GROUNDWATER LEVEL (ft.): NA			MEASURED FROM: Surface		
DRILL TYPE: CME-75			HAMMER: 140 # Automatic			DRILL CO: HazTech Drilling, Inc.			DRILLER: Corey		LOGGED BY: cro

DEPTH (ft.)	GRAPHICAL LOG	SAMPLE	S.P.T. (N) BLOWS/6 IN.	(N1)60 BLOWS/FT.	RECOVERY (%)	UNCONFINED STRENGTH (TSF)	CLASSIFICATION	DESCRIPTION COMMENTS:	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMITS (%)	PLASTICITY INDEX (%)	WELL COMPLETION
1													
2													
3													
4													
5													
6		1	1,2,3	8	61			5.0-6.5ft CLAY: Moist, brown, massive, soft, gravelly upper 7" [ALLUVIUM]					
7													
8													
9													
10													
11		2	0,1,2	4	100		ML	10.0-11.5ft SILT: Moist, brown, massive, very soft, with sand [ALLUVIUM]	29.7		30	5.3	
12													
13													
14													
15													
16		3	0,0,0	0	100			15.0-16.5ft Silty CLAY: Wet, gray brown, massive, very soft, with shell fragments [LAKEBEDS]					
17													
18													
19													
20													
21		4	0,3,6	14	100			20.0-21.5ft Silty CLAY: Wet, soft, laminated in upper 2", massive elsewhere, with shell fragments, then organic rich [LAKEBEDS]					
22													
23													
24													
25													
26		5	14,28,25	66	56			25.0-26.5ft Clayey sandy GRAVEL: Wet, brown, massive, medium dense clay (10%), sand (20%), gravel to 1/2" diameter [ALLUVIUM]					
27													
28													
29													
30													
31		6	36,34,50	100+				30.0-31.5ft Clayey sandy GRAVEL: Wet, yellow brown, massive, very dense, angular gravel to 3/4" diameter, clayey sand matrix (30%) [ALLUVIUM]					
32													
33													
34													

TEST_HOLE_LOG2 REVISED NORTH CACHE.GPJ WOMACK.GDT 1/17/08



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TEST HOLE LOG

PAGE 1 OF 1

PROJECT NAME: 375 North Cache Street							DATE: 11/19/07				
PROJECT LOCATION: Jackson, Wyoming							HOLE NO.: BH-4				
TEST HOLE LOCATION: Southwest corner											
ELEVATION G.S. (ft.):			TOTAL DEPTH (ft.): 31.5			GROUNDWATER LEVEL (ft.): NA			MEASURED FROM: Surface		
DRILL TYPE: CME-75			HAMMER: 140 # Automatic			DRILL CO: HazTech Drilling, Inc.			DRILLER: Corey		LOGGED BY: cro

DEPTH (ft.)	GRAPHICAL LOG	SAMPLE	S.P.T. (N) BLOWS/6 IN.	(N1)60 BLOWS/FT.	RECOVERY (%)	UNCONFINED STRENGTH (TSF)	CLASSIFICATION	DESCRIPTION COMMENTS:	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	LIQUID LIMITS (%)	PLASTICITY INDEX (%)	WELL COMPLETION
1													
2													
3													
4													
5													
6		1	0,0,0	0	78			5.0-6.5ft CLAY: Moist, brown, massive, very soft, organic rich [ALLUVIUM]					
7													
8													
9													
10													
11		U1					CL	10.0-11.5ft			30.2	11.7	
12													
13													
14													
15													
16		2	0,2,4	10	100			15.0-16.5ft Silty CLAY: Wet, dark brown, massive, very soft, with organic matter [ALLUVIUM]					
17													
18													
19													
20													
21		U2						20.0-21.5ft Wet					
22													
23													
24													
25													
26		3	10,28,30	76	56			25.0-26.5ft Clayey sandy GRAVEL: Wet, tan brown, massive, medium dense, clay (10%), sand (15%), angular gravel to 3/4" diameter					
27													
28													
29													
30													
31		4	18,28,26	63	58			30.0-31.5ft Clayey silty sandy GRAVEL: Wet, tan brown, massive, medium dense, gravel to 1" diameter, matrix clayey silty sand (30%) [ALLUVIUM]					
32													
33													
34													

TEST HOLE LOG2 REVISED NORTH CACHE GPJ WOMACK GDT 1/17/08

APPENDIX B

BOREHOLE DATA SUMMARY

Jorgensen - North Cache

BH #	DEPTH INTERVAL From To	INT 1 first 6"	INT 2 second 6"	INT 3 last 6"	N ¹ bpf	RS ²	ER	AV WT (pcf)	AV DEP (ft)	SWL ³ (ft bgs)	OB' (tsf)	CN	CS	CROD	TYPE	(N1)60 bpf
BH-1	5 6.5	1	3	2	4	1.2	1.20	110	6	5	0.29	1.50	1.0	0.75	Clay	6
	10 11.5	1	1	2	3	1.2	1.20	110	11	5	0.41	1.50	1.0	0.75	SiClay	5
	15 16.5	0	0	2	2	1.2	1.20	110	16	5	0.53	1.37	1.0	0.85	Clay/Si Clay	3
	20 21.5	0	0	2	2	1.2	1.20	110	21	5	0.65	1.24	1.0	0.85	SiClay	3
	25 26.5	16	17	16	32	1.17	1.20	130	26	5	1.03	0.99	1.0	0.95	SaGr	42
	30 31.5	5	8	23	31	1.17	1.20	130	31	5	1.20	0.91	1.0	0.95	SaGr + ClSa	38
BH-2	5 6.5	1	2	3	5	1.2	1.20	110	6	5	0.29	1.50	1.0	0.75	Clay	8
	10 11.5	0	0	2	2	1.2	1.20	110	11	5	0.41	1.50	1.0	0.75	Clay (no sample)	3
	15 16.5	0	1	1	2	1.2	1.20	110	16	5	0.53	1.37	1.0	0.85	Clay	3
	20 21.5	0	2	4	6	1.2	1.20	110	21	5	0.65	1.24	1.0	0.85	Clay	9
	25 26.5	9	14	17	31	1.17	1.20	130	26	5	1.03	0.99	1.0	0.95	SaGr	41
	30 31.5	11	19	21	40	1.17	1.20	130	31	5	1.20	0.91	1.0	0.95	SaGr	49
BH-3	5 6.5	1	2	3	5	1.2	1.20	110	6	5	0.29	1.50	1.0	0.75	Clay	8
	10 11.5	0	1	2	3	1.2	1.20	110	11	5	0.41	1.50	1.0	0.75	Clay	5
	15 16.5	0	0	0	0	1.2	1.20	110	16	5	0.53	1.37	1.0	0.85	SiClay	0
	20 21.5	0	3	6	9	1.2	1.20	110	21	5	0.65	1.24	1.0	0.85	SiClay	14
	25 26.5	14	28	25	50	1.17	1.20	130	26	5	1.03	0.99	1.0	0.95	SaGr	66
	30 31.5	36	34	50	84	1.17	1.20	130	30	5	1.18	0.92	1.0	0.95	SaGr	100+
BH-4	5 6.5	0	0	0	0	1.2	1.20	110	6	5	0.29	1.50	1.0	0.75	Clay	0
	15 16.5	0	2	4	6	1.2	1.20	110	16	5	0.53	1.37	1.0	0.85	SiClay	10
	25 26.5	10	28	30	58	1.17	1.20	130	26	5	1.03	0.99	1.0	0.95	ClaySaGr	76
	30 31.5	18	28	26	52	1.17	1.20	130	31	5	1.20	0.91	1.0	0.95	ClSaGr	63

Hammer efficiency: 0.72

¹ Blows adjusted to account for stones; used 2x blows for last 6 inches if middle 6 inches had higher blows than last 6 inches

² RS (2x1.5 inch sampler):

Cohesive 1.2

Cohesionless 1.17

³ Boreholes drilled with mud/water. Global SWL from readings of existing standpipes on 12/10/2007.

APPENDIX C

LABORATORY TESTING DATA

ATTERBERG LIMITS TEST
ASTM D 4318

CLIENT Womack & Associates

JOB NO. 2292-16

BORING NO. BH4
DEPTH 10.0-11.5'
SAMPLE NO. U1
SOIL DESCR. #112017
LOCATION N. Cache

DATE SAMPLED
DATE TESTED 01-11-08 QRS

Plastic Limit
Determination

	1	2	3
Wt Dish & Wet Soil	10.03	8.95	8.89
Wt Dish & Dry Soil	8.62	7.72	7.71
Wt of Moisture	1.41	1.23	1.19
Wt of Dish	1.15	1.12	1.16
Wt of Dry Soil	7.47	6.59	6.55
Moisture Content	18.85	18.67	18.12

Liquid Limit
Determination

Device Number 0860

	1	2	3	4
Number of Blows	17	19	23	28
Wt Dish & Wet Soil	13.02	14.32	17.96	14.50
Wt Dish & Dry Soil	10.15	11.17	14.03	11.43
Wt of Moisture	2.87	3.15	3.92	3.07
Wt of Dish	1.16	1.14	1.16	1.14
Wt of Dry Soil	8.99	10.03	12.87	10.29
Moisture Content	31.91	31.38	30.48	29.79

Liquid Limit 30.2
Plastic Limit 18.5
Plasticity Index 11.7

Atterberg Classification CL

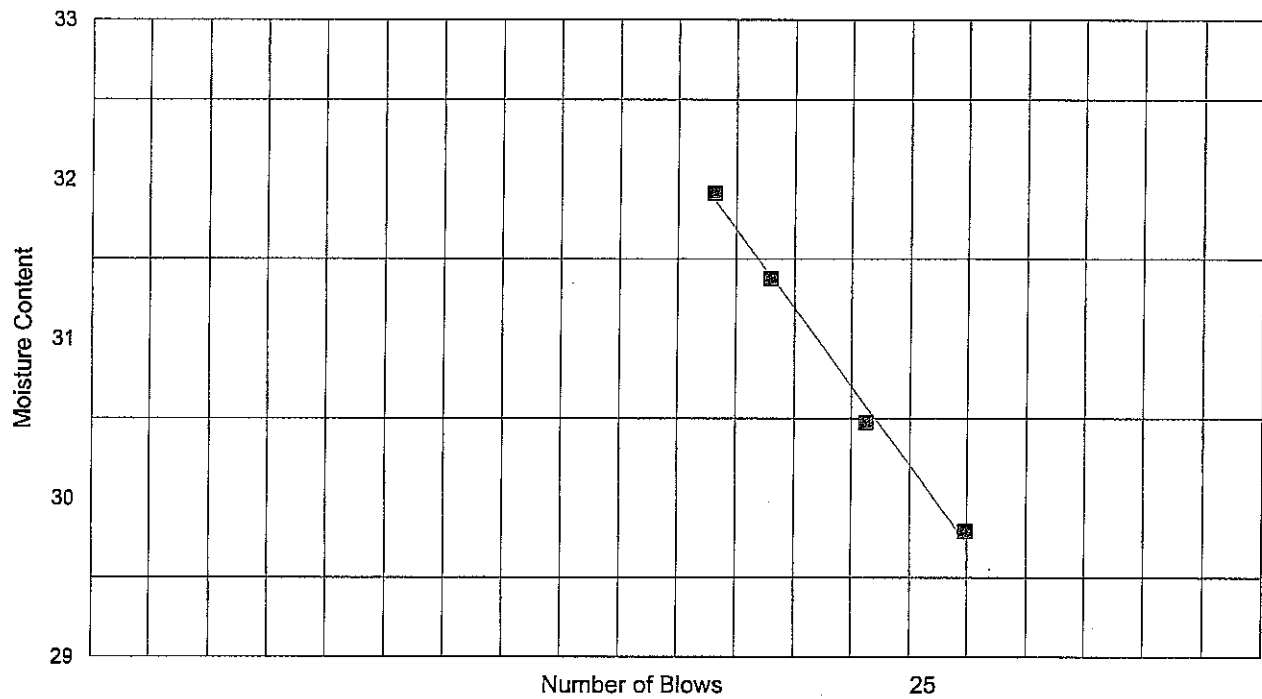
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Checked by: 128
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SR Date: 01/14/2008
Date: 1/15/08
WOG0BH4

ADVANCED TERRA TESTING, INC.

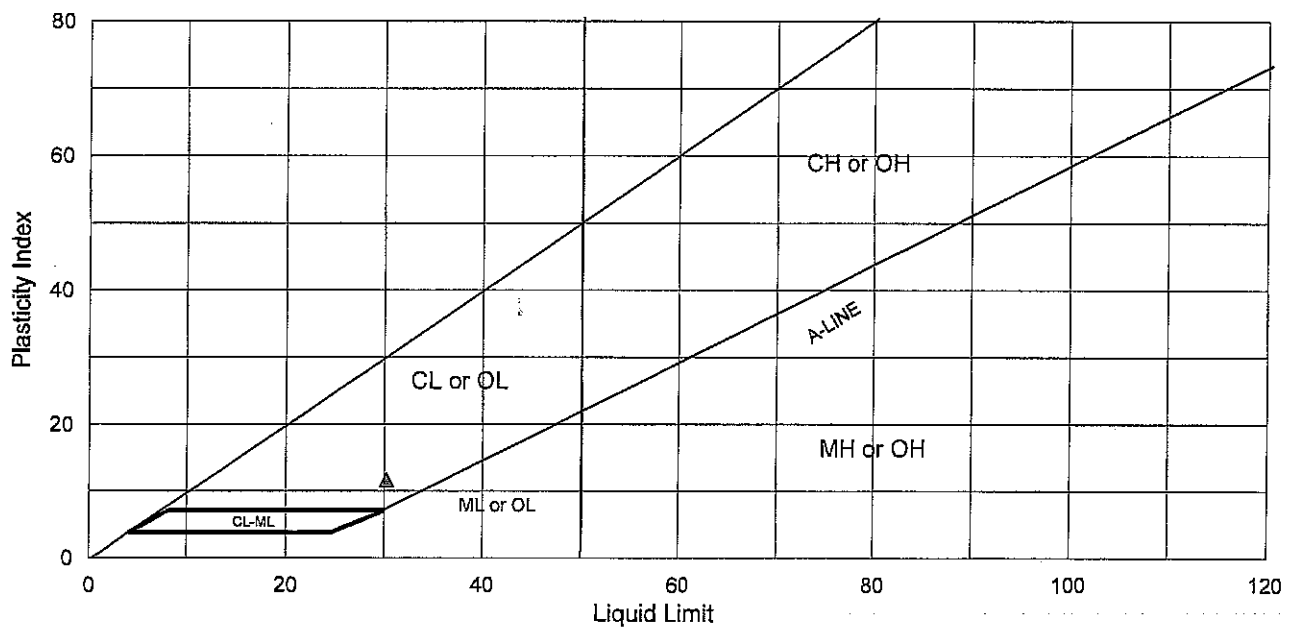
Atterberg Limits, Flow Curve

BH4, 10.0-11.5', U1



PLASTICITY CHART

BH4, 10.0-11.5', U1



▲ Classification

MECHANICAL ANALYSIS - SIEVE TEST DATA
ASTM D-6913

CLIENT Womack & Associates

JOB NO. 2292-16

BORING NO. BH4
DEPTH 10.0-11.5'
SAMPLE NO. U1
SOIL DESCR. #1112017
LOCATION N. Cache

SAMPLED
DATE TESTED 01-11-08 RS
WASH SIEVE Yes
DRY SIEVE No

WASH SIEVE ANALYSIS

Wt. Wet Soil & Pan
Before Washing (g) 313.4
Wt. Dry Soil & Pan
Before Washing (g) 307.2
Weight of Pan (g) 8.2
Wt. of Dry Soil
Before Washing 299.0
Wt. Dry Soil & Pan
After Washing (g) 65.0
Wt. of Dry Soil
After Washing (g) 56.9
-#200 Wash. Out % 81.0

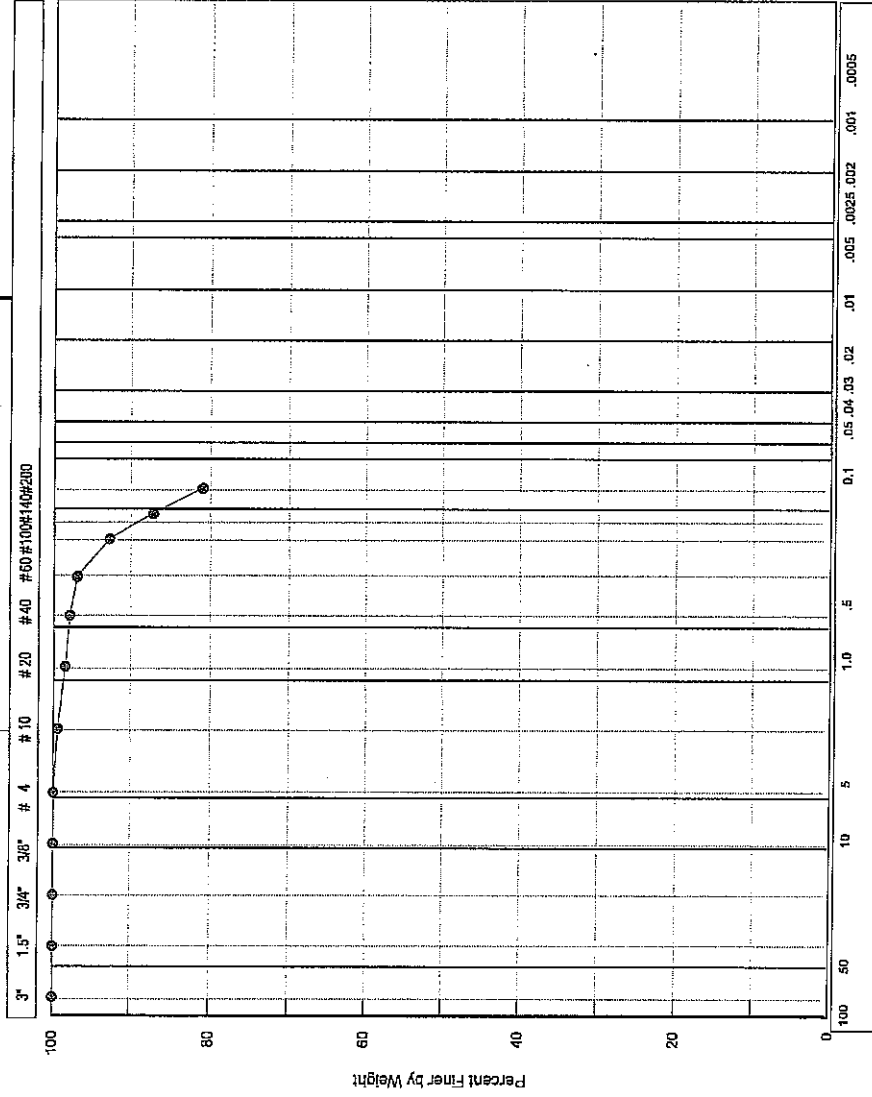
Sieve Number (Size)	Pan Weight (g)	Indiv. Wt. + Pan (g)	Indiv. Wt. Retain.	Cum. Wt. Retain.	Cum. % Retain.	% Finer By Wt.
3"	0.00	0.00	0.00	0.00	0.0	100.0
1 1/2"	0.00	0.00	0.00	0.00	0.0	100.0
3/4"	0.00	0.00	0.00	0.00	0.0	100.0
3/8"	0.00	0.00	0.00	0.00	0.0	100.0
#4	0.00	0.00	0.00	0.00	0.0	100.0
#10	2.37	4.08	1.71	1.71	0.6	99.4
#20	2.36	5.11	2.75	4.47	1.5	98.5
#40	2.37	4.08	1.71	6.18	2.1	97.9
#60	2.37	5.32	2.95	9.13	3.1	96.9
#100	2.36	14.88	12.52	21.65	7.2	92.8
#140	2.37	19.07	16.70	38.35	12.8	87.2
#200	2.36	20.90	18.54	56.89	19.0	81.0

Data entered by: VR SR
Data checked by: VR
FileName: WOMUBH4

Date: 01/15/2008
Date: 1/15/08

ADVANCED TERRA TESTING, INC.

US Standard Sieve Size



● Test Data

COBBLES		GRAVEL		SAND			SILT OR CLAY		
		COARSE	FINE	CRS	MEDIUM	FINE			

COBBLES TO BOULDERS	PEBBLE GRAVEL				SAND			SILT		CLAY
	COARSE	MED	FINE	GRAN	COARSE	MED	FINE			

Client: Wornack & Associates Boring No.: BH4 Sample No.: U1
 Job Number: 2292-16 Depth: 10.0-11.5'
 Classification: CL, Lean Clay with sand Advanced Terra Testing, Inc.

CONSOLIDATION TEST
ASTM D-2435

CLIENT Womack & Associates

JOB NO. 2292-16

BORING NO. BH-4
DEPTH 10.0-11.5'
SAMPLE NO. U1
SOIL DESCR. #1112017
LOCATION N. Cache
SAMPLE DIA.(in) 2.410

SAMPLED
TEST STARTED 01-08-08 DPM
TEST FINISHED 01-15-08 DPM
CELL NUMBER ATT-08

INITIAL HT.(in) 1.000

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST	LOAD (PSF)	CONSOL. (IN.)
Wt. Soil & Ring(s) (g)	195.5	189.0	100	0.0000
Wt. Ring(s) (g)	45.3	45.3	100	0.0112
Wt. Soil (g)	150.2	143.8	200	0.0124
Wet Density PCF	125.5	130.4	400	0.0163
			800	0.0280
Wt. Wet Soil & Pan (g)	153.5	147.1	1600	0.0379
Wt. Dry Soil & Pan (g)	123.2	123.2	1600	0.0371
Wt. Lost Moisture (g)	30.3	23.9	3200	0.0456
Wt. of Pan Only (g)	3.3	3.3	6400	0.0606
Wt. of Dry Soil (g)	119.9	119.9	12800	0.0781
Moisture Content %	25.3	19.9	25600	0.0997
Dry Density PCF	100.1	108.7	6400	0.0965
			1600	0.0910
			400	0.0850
			100	0.0793

	LOAD (PSF)	LOG p	CONSOL. (IN.)	DEFL. (IN.)	VOID RATIO e
	100	2.000	0.0000	0.0000	0.6524
	100	2.000	0.0112	-0.0112	0.6339
	200	2.301	0.0124	-0.0124	0.6319
	400	2.602	0.0163	-0.0163	0.6255
	800	2.903	0.0280	-0.0280	0.6061
	1600	3.204	0.0379	-0.0379	0.5898
Inundate	1600	3.204	0.0371	-0.0371	0.5911
	3200	3.505	0.0456	-0.0456	0.5770
	6400	3.806	0.0606	-0.0606	0.5523
	12800	4.107	0.0781	-0.0781	0.5233
	25600	4.408	0.0997	-0.0997	0.4877
	6400	3.806	0.0965	-0.0965	0.4929
	1600	3.204	0.0910	-0.0910	0.5020
	400	2.602	0.0850	-0.0850	0.5119
	100	2.000	0.0793	-0.0793	0.5214

% Saturation 102.8
Sp. Gr. (g/cc) 2.650
Init. Ht. Solids (cm) 1.537
Init. Ht. Voids (cm) 1.003
Init. Void Ratio 0.6524

Data entry by: SR
Data checked by: PPM
FileName: WOC0H4U1

Date: 01/17/2008
Date: 1/18/08

ADVANCED TERRA TESTING, INC.

CLIENT Womack & Associates

JOB NO. 2292-16

BORING NO. BH-4
 DEPTH 10.0-11.5'
 SAMPLE NO. U1
 SOIL DESCR. #1112017
 LOCATION N. Cache

SAMPLED
 TEST STARTED 01-08-08 DPM
 TEST FINISHED 01-15-08 DPM
 CELL NUMBER ATT-08

TIME READING DATA

800 psf Load

Elapsed Time (min)	SQRT Time (min)	Dial Reading (in)	Defl. (in)
0.0	0.00	0.0170	0.0000
0.1	0.32	0.0195	-0.0025
0.3	0.50	0.0200	-0.0030
0.5	0.71	0.0204	-0.0034
1.0	1.00	0.0209	-0.0039
2.0	1.41	0.0215	-0.0045
4.0	2.00	0.0222	-0.0052
9.0	3.00	0.0229	-0.0059
16.0	4.00	0.0233	-0.0063
30.0	5.48	0.0238	-0.0068
60.0	7.75	0.0245	-0.0075
120.0	10.95	0.0251	-0.0081
240.0	15.49	0.0260	-0.0090
480.0	21.91	0.0272	-0.0102

1600 psf Load

Elapsed Time (min)	SQRT Time (min)	Dial Reading (in)	Defl. (in)
0.0	0.00	0.0295	0.0000
0.1	0.32	0.0314	-0.0019
0.3	0.50	0.0319	-0.0024
0.5	0.71	0.0323	-0.0028
1.0	1.00	0.0326	-0.0031
2.0	1.41	0.0330	-0.0035
4.0	2.00	0.0335	-0.0040
9.0	3.00	0.0339	-0.0044
16.0	4.00	0.0343	-0.0048
30.0	5.48	0.0346	-0.0051
60.0	7.75	0.0349	-0.0054
120.0	10.95	0.0353	-0.0058
240.0	15.49	0.0360	-0.0065
480.0	21.91	0.0374	-0.0079

3200 psf Load

Elapsed Time (min)	SQRT Time (min)	Dial Reading (in)	Defl. (in)
0.0	0.00	0.0395	0.0000
0.1	0.32	0.0428	-0.0033
0.3	0.50	0.0433	-0.0038
0.5	0.71	0.0436	-0.0041
1.0	1.00	0.0441	-0.0046
2.0	1.41	0.0445	-0.0050
4.0	2.00	0.0450	-0.0055
9.0	3.00	0.0455	-0.0060
16.0	4.00	0.0460	-0.0065
30.0	5.48	0.0464	-0.0069
60.0	7.75	0.0469	-0.0074
120.0	10.95	0.0473	-0.0078
240.0	15.49	0.0478	-0.0083
480.0	21.91	0.0483	-0.0088

6400 psf Load

Elapsed Time (min)	SQRT Time (min)	Dial Reading (in)	Defl. (in)
0.0	0.00	0.0494	0.0000
0.1	0.32	0.0508	-0.0014
0.3	0.50	0.0526	-0.0032
0.5	0.71	0.0548	-0.0054
1.0	1.00	0.0573	-0.0079
2.0	1.41	0.0589	-0.0095
4.0	2.00	0.0602	-0.0108
9.0	3.00	0.0612	-0.0118
16.0	4.00	0.0616	-0.0122
30.0	5.48	0.0621	-0.0127
60.0	7.75	0.0628	-0.0134
120.0	10.95	0.0635	-0.0141
240.0	15.49	0.0638	-0.0144
480.0	21.91	0.0644	-0.0150

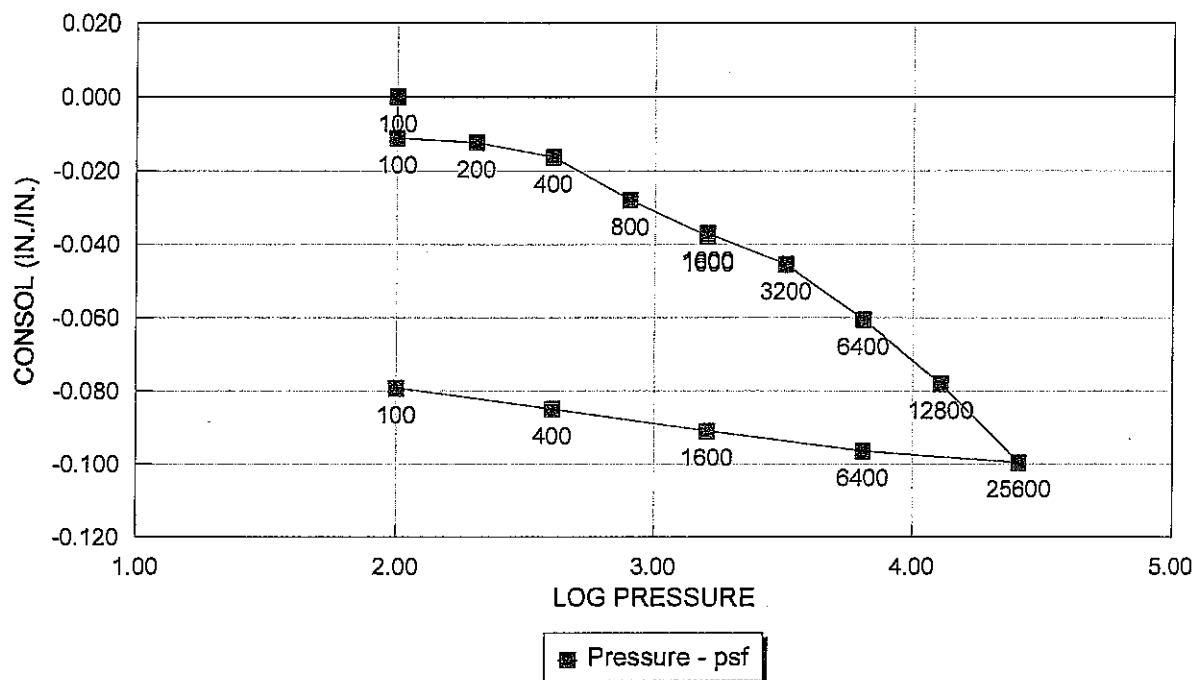
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Date: 01/17/2008
 Date: 1/18/07

ADVANCED TERRA TESTING, INC.

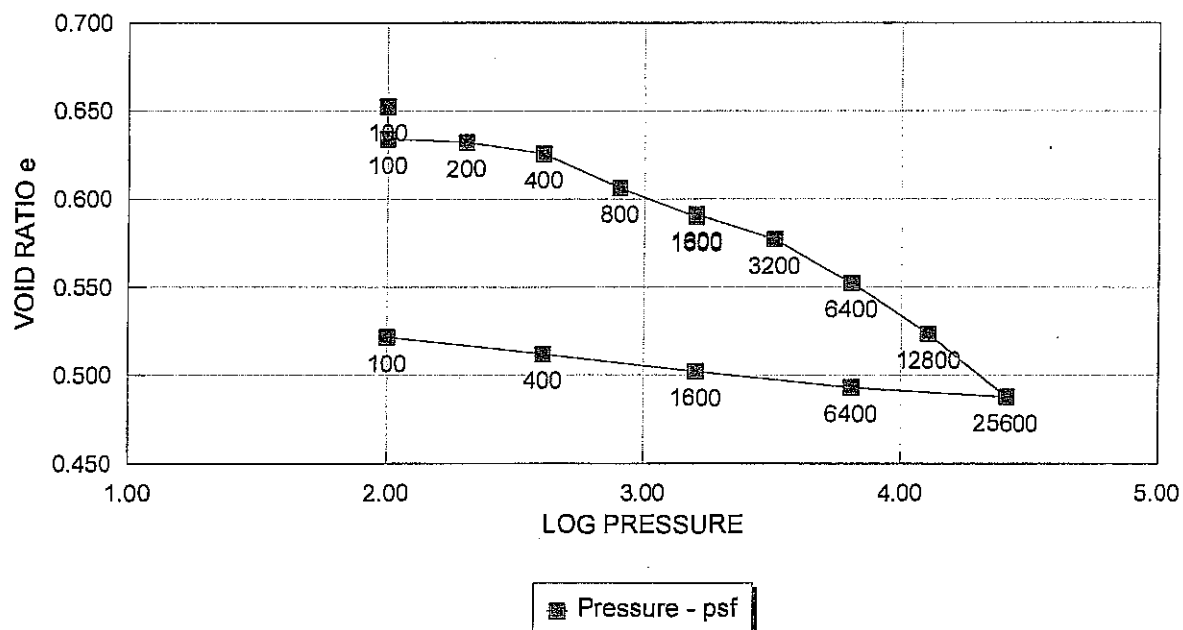
CONSOLIDATION TEST DATA

BH-4,U1,10.0-11.5'



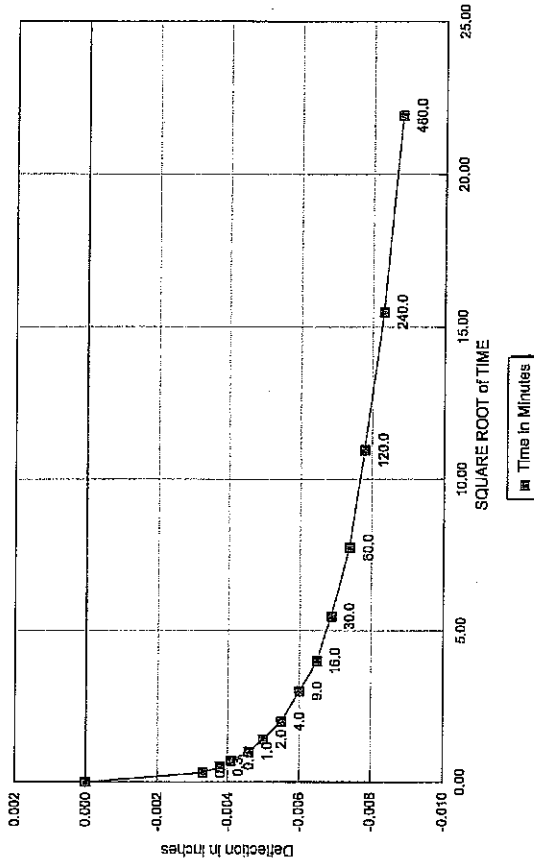
CONSOLIDATION TEST DATA

BH-4,U1,10.0-11.5'



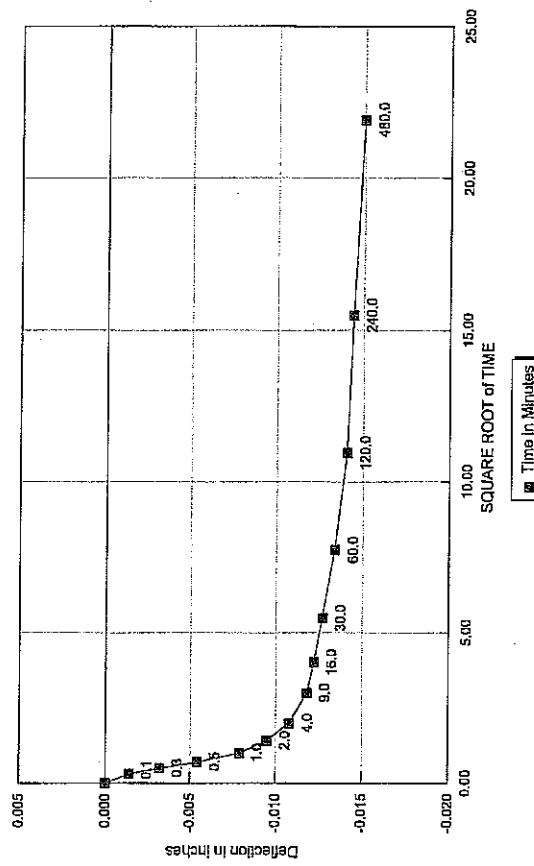
TIME READING DATA

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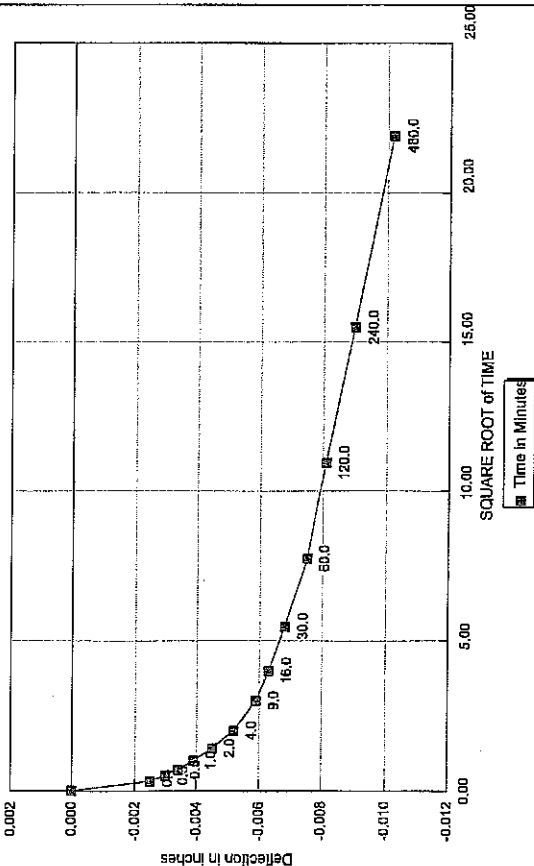
TIME READING DATA

BH-4,U1,10.0-11.5,6400 psf Load



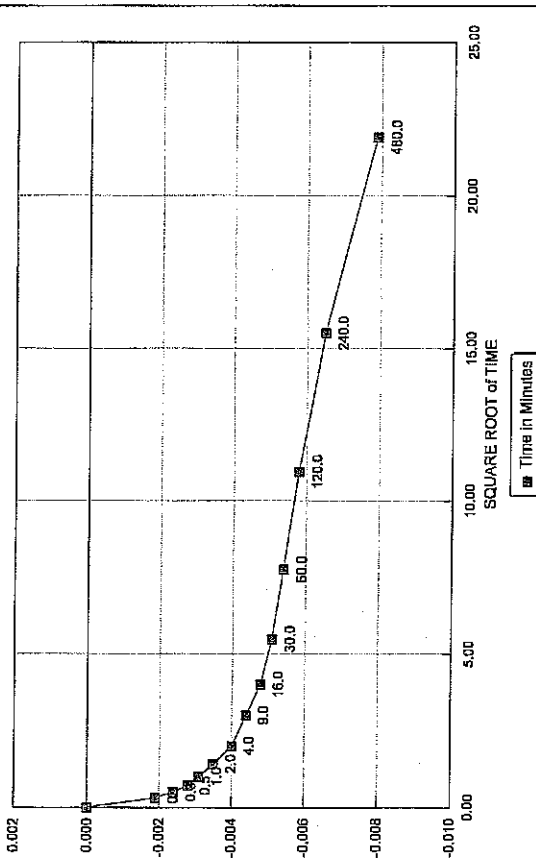
TIME READING DATA

BH-4,U1,10.0-11.5,800 psf Load

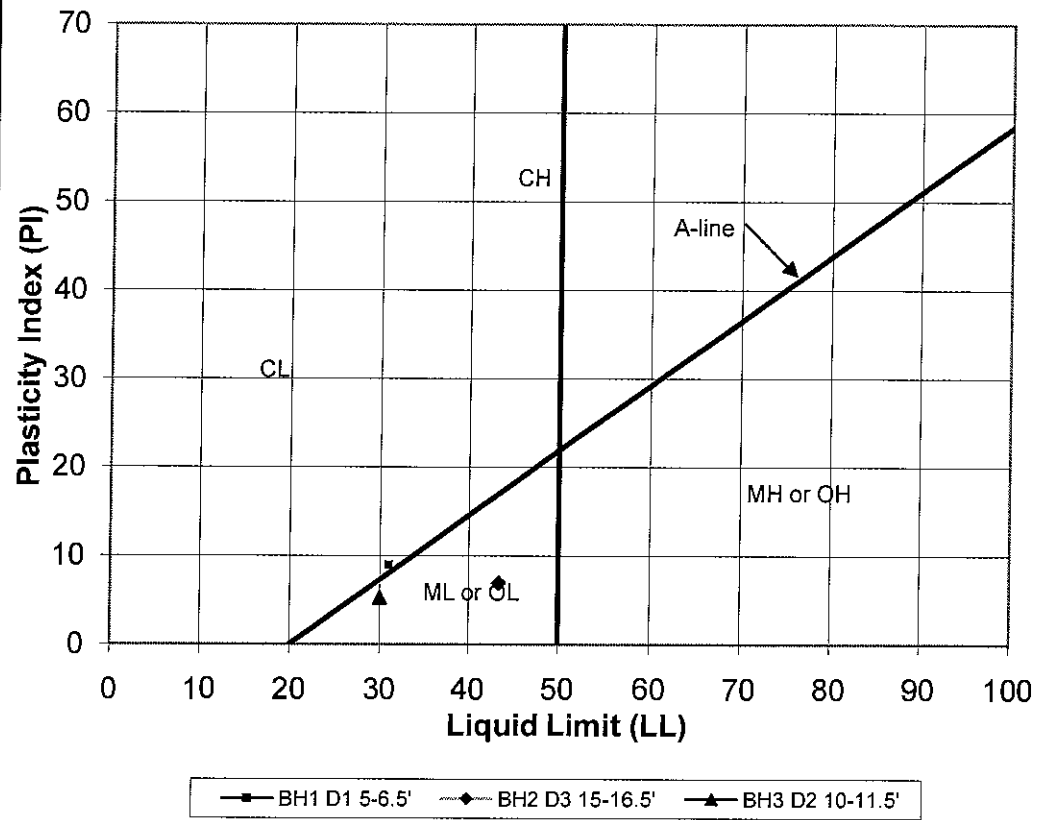


TIME READING DATA

BH-4,U1,10.0-11.5,1600 psf Load



Plasticity Chart



Atterburg Limits

Project: Jorgensen - North Cache
Sample: BH-1, D1, 5'-6.5'
Date: 1/3/2008
Tested By: Dominique Schmid

Moisture Content	
Wet Sample + Tare:	484.1
Tare:	96.4
Wet Sample:	387.7
Dry Sample + Tare:	407.0
Moisture Content:	24.8%

Liquid Limit						
Sample	A	B	C	D	E	F
Container Label						
Tare	105.1	152.5	185.9			
Wet Weight + Tare	113.1	164.6	194.8			
Dry Weight + Tare	111.2	161.8	192.7			
# of Drops	43	15	28			
Moisture Content	31.1%	30.1%	30.9%			
Liquid Limit	33.3	28.3	31.3			
Average LL	31.0					

Plastic Limit						
Sample	A	B	C	D	E	F
Container Label						
Tare	14.8	14.9	96.1			
Wet Weight + Tare	22.6	28.5	109.5			
Dry Weight + Tare	21.1	26.2	107.1			
Moisture Content/Plastic Limit	23.8%	20.4%	21.8%			
Average PL	22.0					

Plastic Index = 9.0

Atterburg Limits

Project: Jorgensen - North Cache
Sample: BH-2, D3, 15'-16.5'
Date: 1/3/2008
Tested By: Dominique Schmid

Moisture Content	
Wet Sample + Tare:	349.5
Tare:	105.1
Wet Sample:	244.4
Dry Sample + Tare:	269.8
Moisture Content:	48.4%

Liquid Limit						
Sample	A	B	C	D	E	F
Container Label						
Tare	101.7	101.6	99.6			
Wet Weight + Tare	108.4	106.5	110.7			
Dry Weight + Tare	106.3	105.0	107.3			
# of Drops	17	29	15			
Moisture Content	45.7%	44.1%	44.2%			
Liquid Limit	43.6	44.9	41.5			

Average LL **43.3**

Plastic Limit						
Sample	A	B	C	D	E	F
Container Label						
Tare	100.7	15	14.9			
Wet Weight + Tare	111.1	28.5	29.1			
Dry Weight + Tare	108.4	24.9	25.2			
Moisture Content/Plastic Limit	35.1%	36.4%	37.9%			

Average PL **36.4**

Plastic Index = 6.9

Atterburg Limits

Project: Jorgensen - North Cache
Sample: BH-3, D2, 10'-11.5'
Date: 1/3/2008
Tested By: Dominique Schmid

Moisture Content	
Wet Sample + Tare:	553.6
Tare:	179.8
Wet Sample:	373.8
Dry Sample + Tare:	468.0
Moisture Content:	29.7%

Liquid Limit						
Sample	A	B	C	D	E	F
Container Label						
Tare	185.0	14.8	14.8			
Wet Weight + Tare	191.8	21.1	25.0			
Dry Weight + Tare	190.2	19.7	22.7			
# of Drops	22	41	26			
Moisture Content	30.8%	28.6%	29.1%			
Liquid Limit	30.3	30.3	29.3			

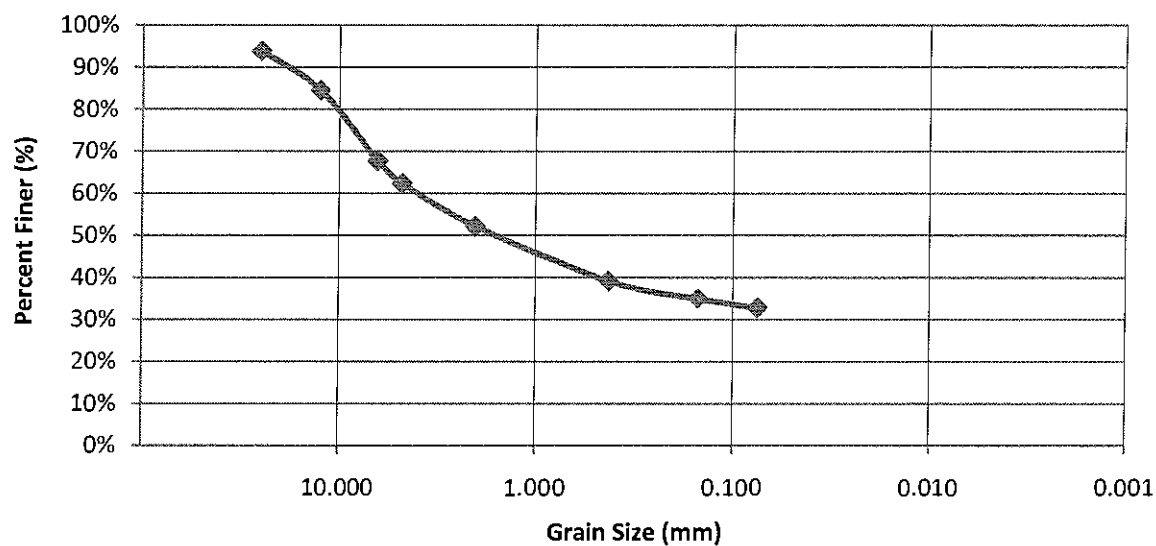
Average LL **30.0**

Plastic Limit						
Sample	A	B	C	D	E	F
Container Label						
Tare	186.4	151.1	152.1			
Wet Weight + Tare	202.7	163	169.9			
Dry Weight + Tare	199.7	160.4	166.5			
Moisture Content/Plastic Limit	22.6%	28.0%	23.6%			

Average PL **24.7**

Plastic Index = 5.3

Particle Size Distribution



Sieve Size	Opening (mm)	Tare	Tare + Sample	Sample	% Retained	% Passing
1"	25.0	14.9	43	28.1	6.2%	93.8%
1/2"	12.50	14.9	57.3	42.4	15.5%	84.5%
1/4"	6.3	14.9	91.5	76.6	32.2%	67.8%
#4	4.75	14.9	39.5	24.6	37.6%	62.4%
#10	2.00	14.9	86.2	71.3	47.9%	52.1%
#40	0.425	14.9	74.2	59.3	60.9%	39.1%
#100	0.150	14.9	34	19.1	65.1%	34.9%
#200	0.075	14.9	24.9	10	67.2%	32.8%
Pan	-	14.9	15.2	62.6	81.0%	19.0%
Total Sample				456.2		

200-minus

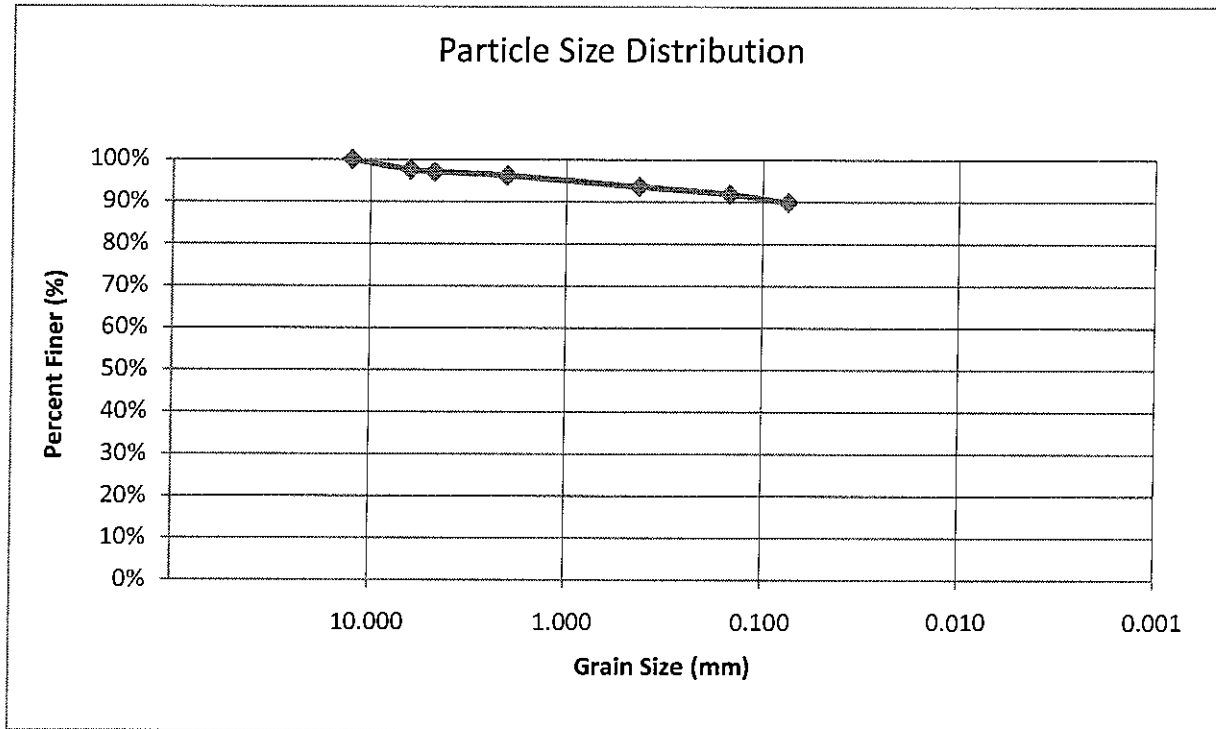
Wet Sample + Tare(g)	430.5
Tare (g)	14.9
Dry Sample post-wash (g)	346.4
Weight 200-minus (g)	62.3

Classification

%Gravel	47.9%
%Sand	19.4%
%Fines	32.8%

Moisture Content

Sample + Tare	339.4
Tare	184.9
Sample Weight	154.5
Dry Weight + Tare	322.8
Moisture Content	12.0%



Sieve Size	Opening (mm)	Tare	Tare + Sample	Sample	% Retained
1/2"	12.50	14.9	14.9	0	0.0%
1/4"	6.3	14.9	19.3	4.4	2.5%
#4	4.75	14.9	15.7	0.8	2.9%
#10	2.00	14.9	17.3	2.4	3.8%
#40	0.425	14.9	19.6	4.7	6.4%
#100	0.150	14.9	18	3.1	8.2%
#200	0.075	14.9	18.5	3.6	10.2%
Pan	-	14.9	15.7	159.8	99.6%
Total Sample				178.8	

200-minus

Wet Sample + Tare(g)	465.5
Tare (g)	14.9
Dry Sample post-wash (g)	34.9
Weight 200-minus (g)	159.0

Classification

%Gravel	3.8%
%Sand	6.4%
%Fines	89.8%

Moisture Content

Sample + Tare	520.1
Tare	186.6
Sample Weight	333.5
Dry Weight + Tare	394.4
Moisture Content	60.5%

ATTACHMENT C

Select Borehole Logs from Wyoming DEQ Jackson LAUST Reports

BOREHOLE INSTALLATION DIAGRAM

Project Jackson Subsurface Investigation CFB-0290-D
 Location Teton Texaco Site No. 21
 Contractor GeoScience & Engineering, Inc. 97105-1
 Driller Dan Hawley - Hawley Brothers Drilling
 Method 7 1/2 inch OD HSA - BK81
 Sampler 1 3/8 inch ID Split Spoon

Borehole No. MW-021
 Monitor Well No. MW-021
 Date 6/18/97
 Logged by BC, CN
 Checked by CN
 Sheet 1 of 1

Depth	Description/Lithology	Blows/ Depth	Field Screening Method <u>PID (ppmv)</u>	
			Reading	Notes
0	6 in ASPHALT Gray clayey SILT			
5	17 in gray clayey SILT Groundwater @ 5 ft	2 2 3 3 4 - 6 ft	36.2	R = 17 in Slight petroleum staining & odor Soil sample MW-021-4-6
10	17 in brown gray clayey SILT	1 1 2 2 9 - 11 ft	17.6	R = 17 in Slight petroleum staining & odor
	Silty GRAVEL			
	Clayey SILT			
15	End of boring @ 13 ft			

R = Recovery

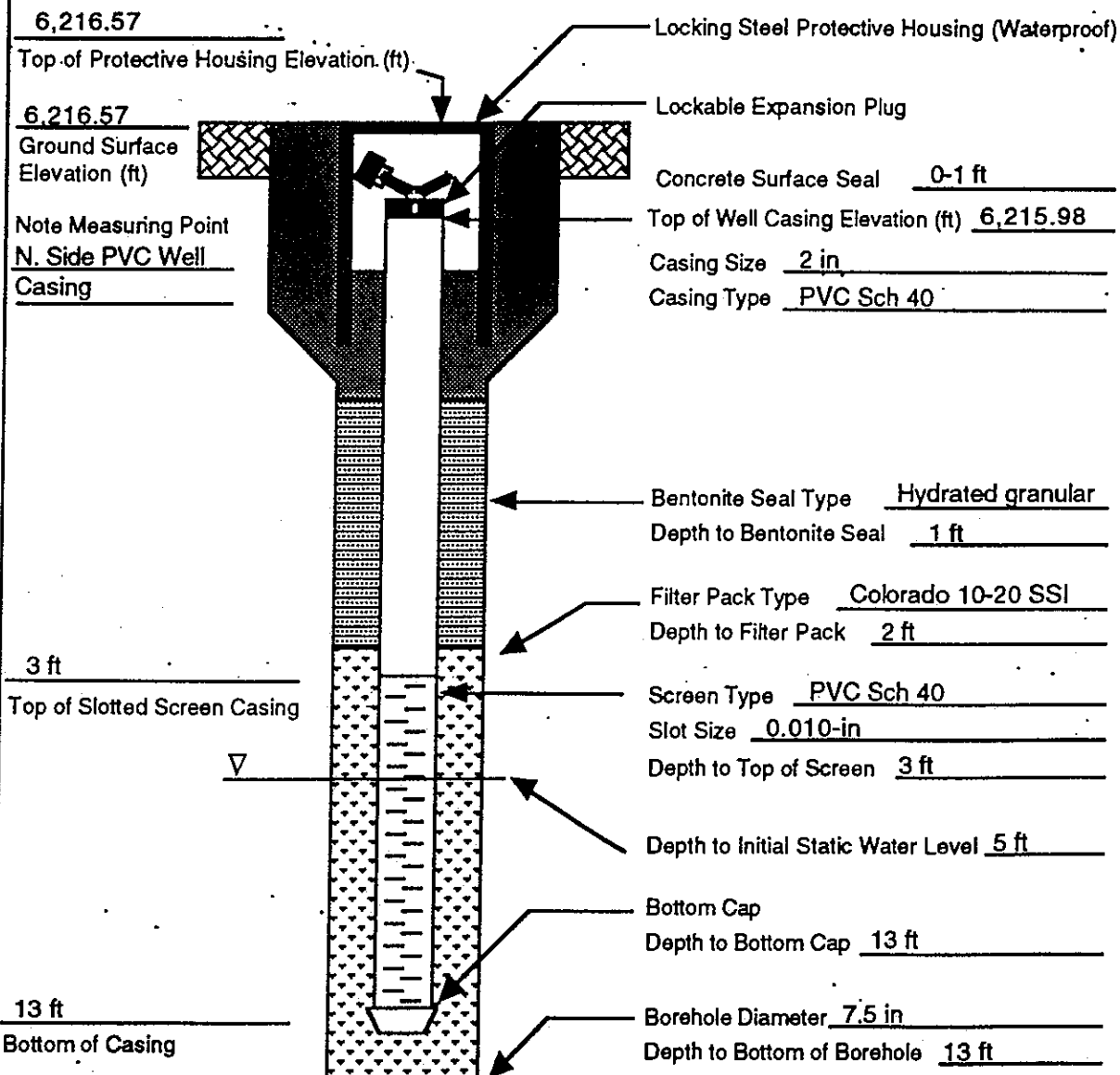
Depth to Water During Drilling 5 ft Date 6/18/97
 Static Water Level Depth 3.81 ft Date 7/24/97
4.64 ft Date 9/16/97

Measured From North side PVC well casing
 Remarks _____

MONITOR WELL INSTALLATION DIAGRAM

Project Jackson Subsurface Investigation CFB-0290-D
 Location Teton Texaco Site No. 21
 Contractor GeoScience & Engineering, Inc. 97105-1
 Driller Dan Hawley - Hawley Brothers Drilling
 Method Hollow Stem Auger

Monitor Well No. MW-021
 Borehole No. MW-021
 Date 6/18/97
 Observed by BC, CN
 Checked by CN
 Sheet 1 of 1



Surveyed by Rio Verde Engineering

Remarks _____

UW# 105731

BOREHOLE INSTALLATION DIAGRAM

Project Jackson Subsurface Investigation CFB-0290-D
 Location Teton Texaco Site No. 21
 Contractor GeoScience & Engineering, Inc. 97105-1
 Driller Dan Hawley - Hawley Brothers Drilling
 Method 7 1/2 inch OD HSA - BK81
 Sampler 1 3/8 inch ID Split Spoon

Borehole No. MW-023
 Monitor Well No. MW-023
 Date 6/19/97
 Logged by BC
 Checked by CN
 Sheet 1 of 1

Depth	Description/Lithology	Blows/ Depth	Field Screening Method <u>PID (ppmv)</u>	
			Reading	Notes
0	4 in sand & gravel FILL Black clayey SILT			
5	15 in gray brown clayey SILT Groundwater @ 5 ft	1 3 4 3 4 - 6 ft	8.0	R = 15 in Soil sample MW-023-4-6
10	19 in brown clayey SILT	1 1 0 2 9 - 11 ft	6.6	R = 19 in
	Brown clayey SILT			
15	End of boring @ 13 ft			
			R = Recovery	

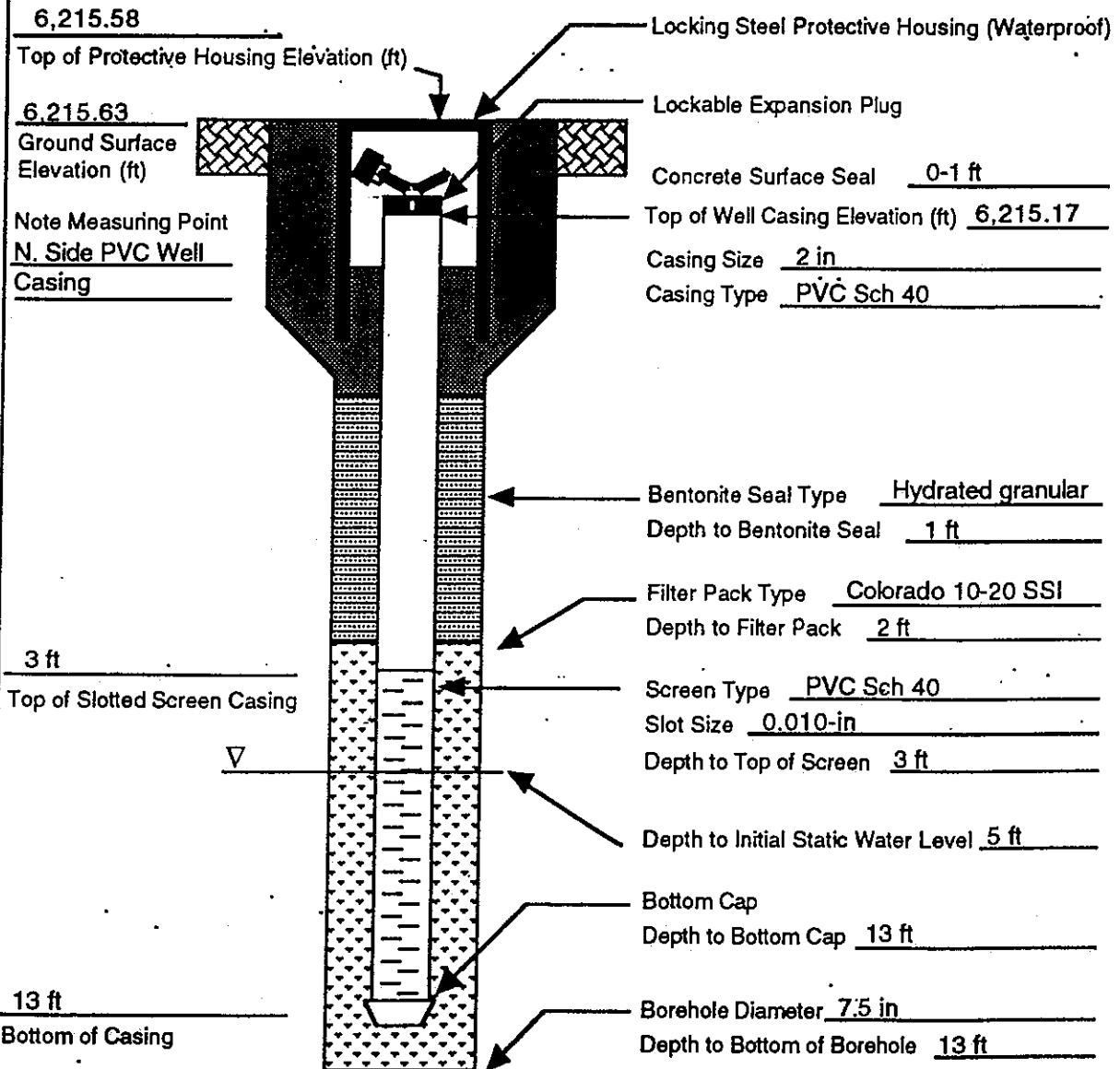
Depth to Water During Drilling 5 ft Date 6/19/97
 Static Water Level Depth 3.13 ft Date 7/24/97
4.85 ft Date 9/16/97

Measured From North side PVC well casing
 Remarks _____

MONITOR WELL INSTALLATION DIAGRAM

Project Jackson Subsurface Investigation CFB-0290-D
Location Teton Texaco Site No. 21
Contractor GeoScience & Engineering, Inc. 97105-1
Driller Dan Hawley - Hawley Brothers Drilling
Method Hollow Stem Auger

Monitor Well No. MW-023
Borehole No. MW-023
Date 6/19/97
Observed by BC
Checked by CN
Sheet 1 of 1



Surveyed by Rio Verde Engineering

Remarks _____

UW# 105733

BOREHOLE INSTALLATION DIAGRAM

Project Jackson Subsurface Investigation CFB-0290-D
 Location Teton Texaco Site No. 21
 Contractor GeoScience & Engineering, Inc. 97105-1
 Driller Dan Hawley - Hawley Brothers Drilling
 Method 7 1/2 inch OD HSA - BK81
 Sampler 1 3/8 inch ID Split Spoon

Borehole No. MW-029
 Monitor Well No. MW-029
 Date 6/23/97
 Logged by BC, CN, EB
 Checked by CN
 Sheet 1 of 1

Depth	Description/Lithology	Blows/ Depth	Field Screening Method <u>PID (ppmv)</u>	
			Reading	Notes
0	SOD Brown SILT			
	17 in brown SILT with some clay	2 3 4 6	6.0	R = 17 in Soil sample MW-029-3-5
	 Groundwater @ 5 ft	3 - 5 ft		
5	21 in brown clayey SILT	2 2 3 4	7.0	R = 21 in
		5 - 7 ft		
10				
	End of boring @ 13 ft			
15				

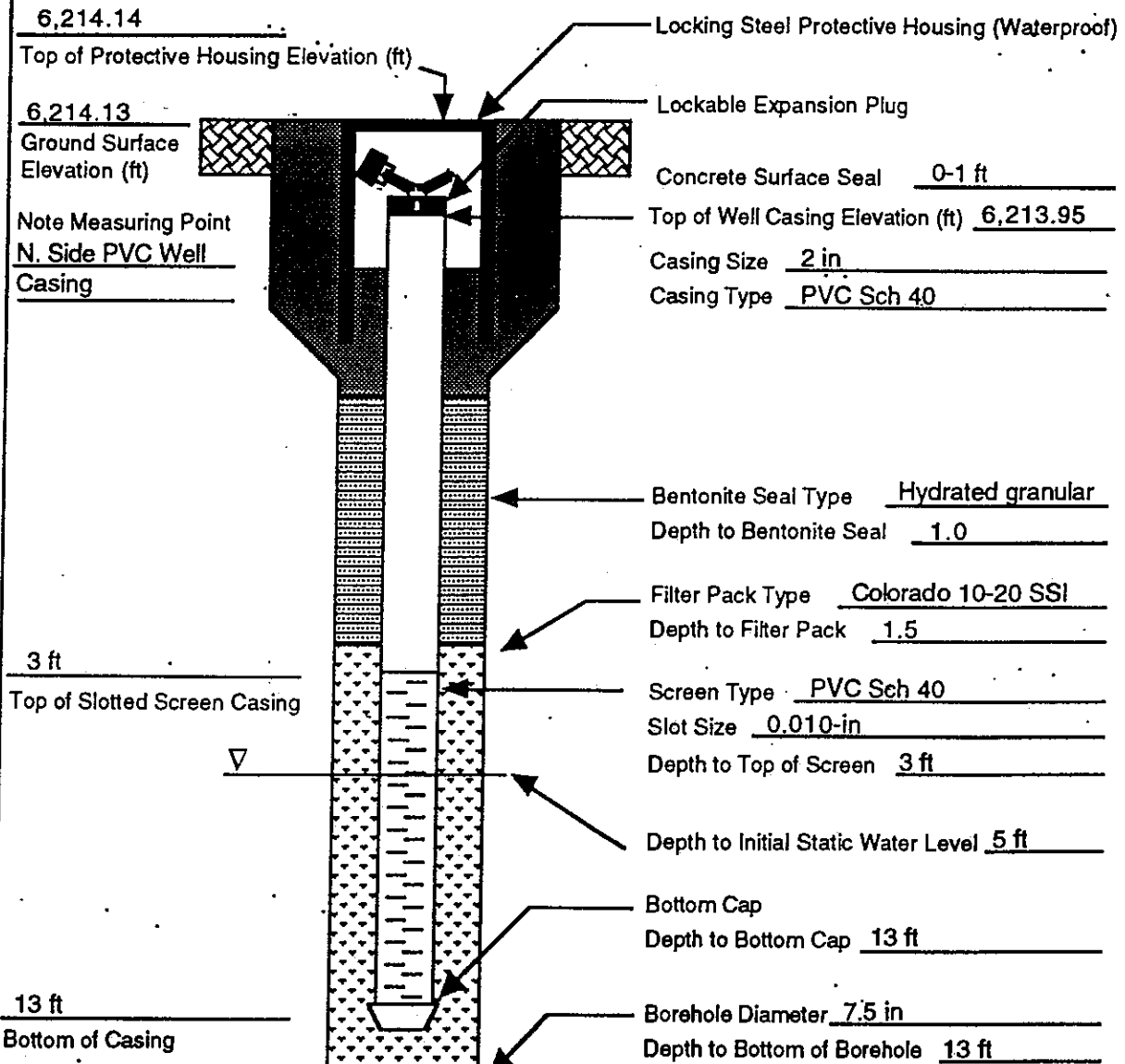
R = Recovery

Depth to Water During Drilling 5 ft Date 6/23/97
 Static Water Level Depth 5.05 on 7/24/97 and 6.17 on 9/16/97
 Measured From North side PVC well casing
 Remarks Located in Town of Jackson right of way N. Glenwood Street East side
Excavation Permit No. 970283

MONITOR WELL INSTALLATION DIAGRAM

Project Jackson Subsurface Investigation CFB-0290-D
Location Teton Texaco Site No. 21
Contractor GeoScience & Engineering, Inc. 97105-1
Driller Dan Hawley - Hawley Brothers Drilling
Method Hollow Stem Auger

Monitor Well No. MW-029
Borehole No. MW-029
Date 6/23/97
Observed by BC, CN, EB
Checked by CN
Sheet 1 of 1



Surveyed by Rio Verde Engineering
Remarks In Town of Jackson Right of way - Excavation Permit No. 970283

UW# 105739

ATTACHMENT D

Wyoming DEQ Jackson LAUST Reports

10.0 CACHE CHEVRON (#1535) / TETON TEXACO (#3436)

10.1. SITE BACKGROUND

The Cache Chevron site is located at 401 North Cache Street. It is the present location of an active gas station, and has been a gas station for more than 47 years. Four USTs are currently used at the Cache Chevron site, including one 12,000-gallon gasoline tank, one 8,000-gallon gasoline tank, one 6,000-gallon gasoline tank, and one 500-gallon waste oil tank; these tanks are located on the south side of the service station in one tank basin. A groundwater recovery system operated at this site prior to 1990, and site investigations, including test borings, monitoring well installation, and sampling, were conducted at this site prior to 1990.

In 1998, five gasoline USTs (three 3,000-gallon tanks, one 6,000-gallon tank, and one 12,000-gallon tank) were removed from the tank basin where the present-day USTs currently reside. A 500-gallon waste oil UST and a 1,000-gallon heating oil UST were also removed from the west side of the service station building at that time. During the 1988 tank removal, a spill of 550 gallons of gasoline occurred when one tank was ruptured; some of the spilled fuel was reportedly recovered, and impacted soil was excavated for off-site disposal. During the fall of 1988, a release of an estimated 1,076 gallons of gasoline occurred due to an underground line leak; some of this product was reported to have been recovered.

The Teton Texaco site, located at 375 North Cache Street, was a service station that included USTs, a fuel dispenser island, and a separate fuel dispenser pump. Four USTs were removed from the site in November 1990, including two 6,000-gallon gasoline tanks, one 500-gallon waste oil tank, and one 500-gallon heating oil tank (GS&E, 1998). The locations of the former tank basins are shown in Figure 10-1. Approximately 186 tons of impacted soil were removed from the tank basins and replaced with clean fill at the time of tank removal.

ORC was injected at both the Cache Chevron and Teton Texaco sites in 2000, followed by Fenton's Reagent injections in 2003 and 2004.

10.2. TREND ANALYSIS

Benzene and TPH data were reviewed over the lifetime of the project for MW-016, MW-407, and MW-408 (Cache Chevron); and MW-TT-2, MW-021, MW-022, MW-025, and MW-300 (Teton Texaco) to evaluate contaminant trends, relationships between water levels and contaminant concentrations, and effects of remediation efforts on contamination. Charts 10-1 through 10-8, located at the end of this section, present these data with respect to WDEQ remediation standards.

Cache Chevron

Benzene and TPH concentrations at MW-016 have decreased significantly since the ORC application in June 2000. Benzene, TPH-GRO, and TPH-DRO concentrations have remained below their respective remediation standards since October 2003, and all three were non-detect in July 2011. The Mann-Kendall tests for this well indicate a decreasing trend for the benzene data set, an increasing trend for the TPH-GRO data set, and no trend for the TPH-DRO data set.

MW-407 is located approximately 60 feet down gradient from the original tank basin at the Cache Chevron site. Benzene concentrations at MW-407 have fluctuated over the lifetime of the project and were measured at their highest concentration, 510 µg/L, during the May 2007 sampling event. Benzene concentrations decreased to 56 µg/L in May 2008, then increased to 352 µg/L in September 2009, and decreased to 180 µg/L in July 2011. TPH-GRO concentrations have remained below the action level since August 2001. TPH-DRO has only been measured during the last seven sampling events, and the concentration was <0.5 mg/L during every sampling event except for a concentration of 0.59 mg/L in May 2010. The Mann-Kendall tests for this well indicate no trend for any data set.

At MW-408, benzene concentrations decreased from the ORC application in June 2000, and TPH-GRO concentrations remained low during all sampling events. Concentrations of both contaminants were below the detection limit or remediation standard from November 2002 through May 2007. This well was destroyed prior to the September 2007 sampling event and therefore has not been sampled since Round 11. The Mann-Kendall tests for this well indicated a decreasing trend for the benzene data set, whereas no trend was indicated for either of the TPH-GRO or TPH-DRO data sets.

Teton Texaco

Benzene and TPH concentrations at MW-TT-2 exceeded the remediation standards from September 2001 through October 2004, despite applications of Fenton's Reagent in September 2003 and September 2004. In May 2005, the benzene concentration was 450 µg/L, but it increased to 3,100 µg/L in October 2005. Similar fluctuations have occurred since then with benzene concentrations ranging from 549 µg/L in May 2009 to 3,660 µg/L in October 2008. The benzene concentration in July 2011 was 2,110 µg/L. TPH-GRO has fluctuated seasonally, and the concentration was 16.4 mg/L in July 2011. The TPH-DRO concentration was 2.9 mg/L in July 2011. The Mann-Kendall tests for this well indicate no trend for any data set.

Benzene concentrations at MW-021 have steadily decreased since the ORC application in June 2000. Following the Fenton's Reagent applications in September 2003 and September 2004, benzene concentrations decreased from 180 µg/L in October 2004 to 6.8 µg/L in July 2011. TPH-GRO and TPH-DRO concentrations have remained below their respective action levels since the ORC application in

2000. The Mann-Kendall tests for this well indicate a decreasing trend for the benzene, whereas no trend is indicated for the either of the TPH-GRO or TPH-DRO data sets. These data suggest that the plume is shrinking in this area.

Benzene concentrations at MW-022 fluctuated seasonally around 4,000 µg/L until the Fenton's Reagent application in September 2004, when the well was damaged due to the high temperatures of the application. The well was replaced in spring 2005 (MW-022A). Since then, benzene, TPH-GRO, and TPH-DRO concentrations decreased (lowest concentration of benzene was 154 µg/L in October 2010) until July 2011, when benzene, TPH-GRO, and TPH-DRO were detected at 1,550 µg/L, 10.2 mg/L, and 3.8 mg/L, respectively. The significant decrease in concentrations at MW-022A (an order of magnitude lower) that occurred between May 2004 and May 2005 suggests that the new well is not close enough to the original well to be considered a replacement well. Therefore, only the data collected from well MW-022A, after the Fenton's Application in 2004, is evaluated for trends. The Mann-Kendall tests for this well indicate no trend for any data set.

Benzene concentrations at MW-025 have generally fluctuated inversely with groundwater elevations since sampling began. Both fall and spring benzene concentrations have decreased since September 2004, when the most recent application of Fenton's Reagent occurred (Chart 10-7). However, the benzene concentration at this well increased from 253 µg/L in May 2009 to 1,550 µg/L in October 2010, but has since decreased to 362 µg/L in July 2011. TPH-GRO and TPH-DRO concentrations initially decreased after the 2004 Fenton's Reagent application, but remained at or above their respective action levels until July 2011, when the concentrations were 7.05 mg/L and 0.93 mg/L, respectively. The Mann-Kendall tests for this well indicate a decreasing trend for the benzene, whereas no trend is indicated for the either of the TPH-GRO or TPH-DRO data sets.

Benzene concentrations at MW-300 decreased from August 2001 until September 2007, with benzene concentrations below the action level of 5 µg/L from October 2005 to September 2007. Benzene concentrations have since rebounded, with a concentration of 984 µg/L in July 2011. TPH-GRO and TPH-DRO concentrations have remained below their respective action levels since August 2001 and May 2002, respectively. The Mann-Kendall tests for this well indicate no trend for any data set.

10.3. PLANNED ACTIONS

10.3.1. Remedial Activities

The Teton Texaco site is expected to undergo construction within the next two years. In a memorandum entitled "Excavation Evaluation for Jackson Remediation Project – Teton Texaco Site," submitted to WDEQ on May 15, 2008 (URS, 2008d), URS recommended evaluating additional remedial alternatives for the Teton Texaco site and implementing the selected alternative prior to construction of a new building

on site. Contaminant concentrations significantly exceed WDEQ remediation standards and will prevent the site from proceeding to closure in a reasonable timeframe without implementation of additional remediation. As of January 2011, the site owner was considering options for removing contaminated soil from the site prior to constructing a new building, and WDEQ provided URS' updated cost estimate for the targeted excavation to the site owner. URS continues to recommend an excavation to remove contaminated soils from the Teton Texaco site.

URS recommends evaluating remedial alternatives to address the residual groundwater contamination at the Cache Chevron site. An existing tank basin and active service station at the site limit the feasible options for remediating the site, but contaminant concentrations in the area of MW-407 exceed WDEQ restoration standards and appear to be relatively stable, which will prevent the site from proceeding to closure in a reasonable timeframe without implementation of additional remediation.

10.3.2. Expansion of Monitoring Network Using Existing Monitoring Wells

Because of the rebound in benzene concentrations at MW-300 and MW-407, the plume is not bounded in the northwest direction with the current monitoring wells being sampled. URS recommends sampling MW-029, MW-030, MW-034, and MW-152 during the July 2012 groundwater sampling event.

10.3.3. Vapor Intrusion Assessment

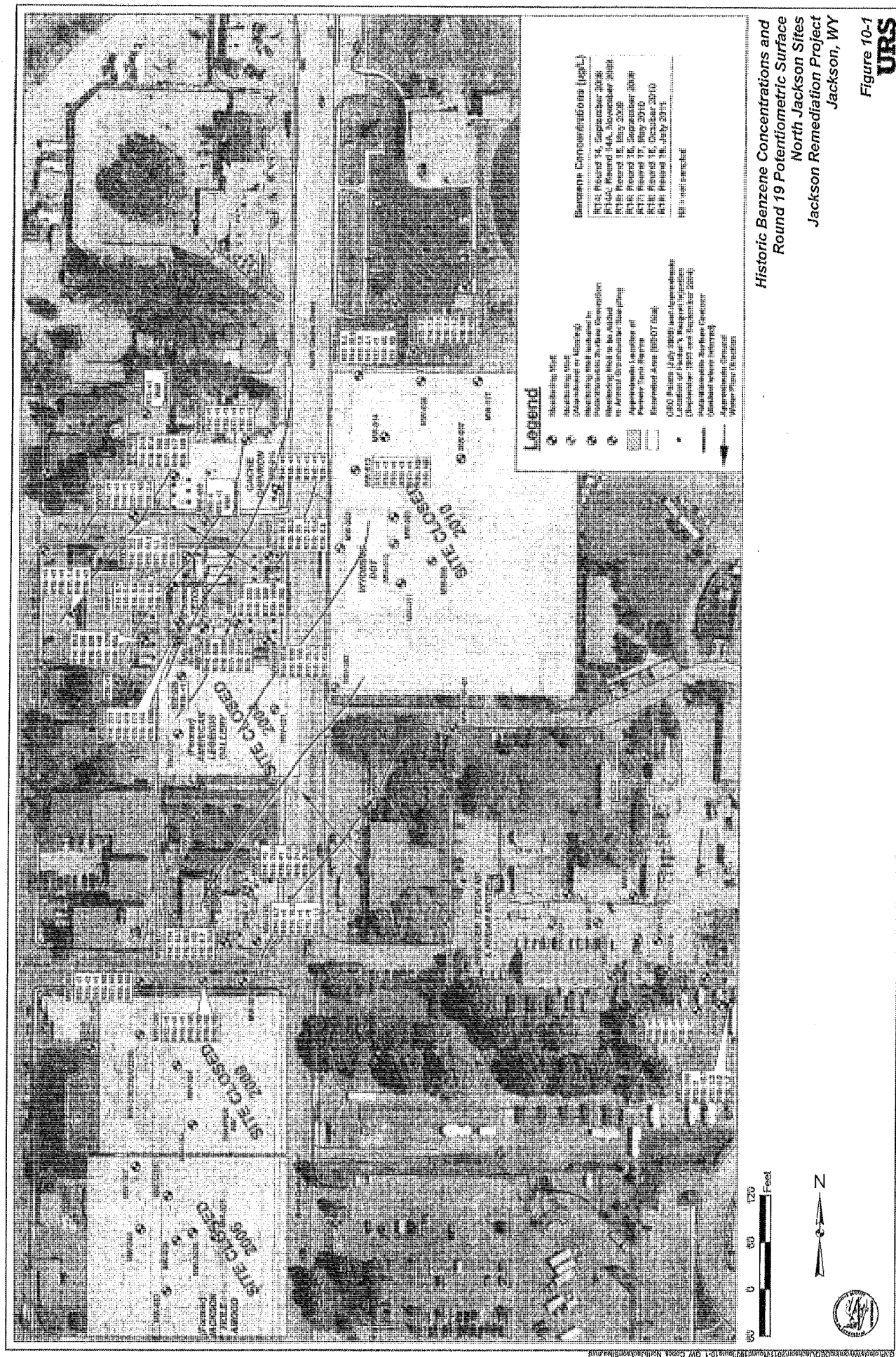
Since the benzene plume appears to extend beneath the building west of the Teton Texaco site, and because of the shallow groundwater at this site, vapor intrusion to the building is a concern. To evaluate the potential for vapor intrusion impacts, URS recommends the following steps:

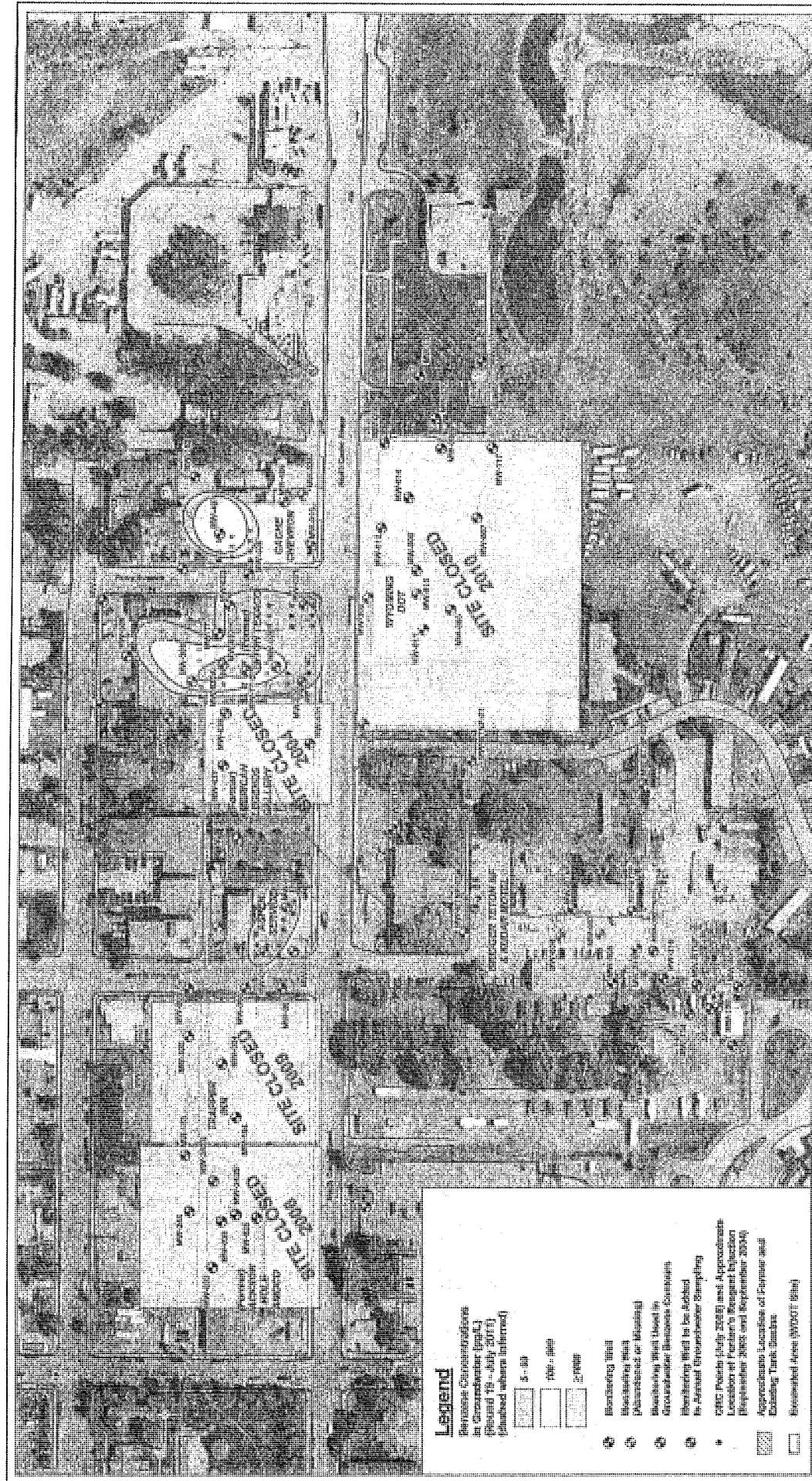
- o interviewing employees to determine if vapors have been detected
- o measuring vapor concentrations in utility vaults
- o evaluating the potential for vapors to affect human health using Interstate Technology & Regulatory Council (ITRC) Vapor Intrusion Guide, 2007, and United States Environmental Protection Agency (USEPA) Office of Solid Waste and Emergency Response (OSWER) Draft Guidance for Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils, 2002.

Depending on the findings of this evaluation, near-slab or sub-slab soil gas monitoring may be recommended.

10.3.4. Continued Monitoring

Groundwater sampling for methyl tert-butyl ether, benzene, toluene, ethylbenzene, xylene, naphthalene (MBTEXN), TPH-GRO, and TPH-DRO, has taken place at the site on a semiannual basis since 2000. As of 2011, sampling was reduced to an annual basis. Groundwater sampling will continue to be conducted on an annual basis in late summer or early fall, to coincide with higher seasonal water levels and higher benzene concentrations (on average).





Round 19 Benzene Isoconcentration Contours
North Jackson Sites
Jackson Remediation Project
Jackson, WY

Figure 10-2

URS



December 7, 2012

Shawn O'Malley, P.E.
Town of Jackson Engineer
P.O. Box 1687
Jackson, WY 83001

**Re: Soil Investigation Results
Former Teton Texaco Site, WDEQ STP Site #3436**

Dear Mr. O'Malley:

In a letter to the Town of Jackson dated November 27, 2012, URS described the plan to address potential soil and groundwater contamination at the former WDEQ Teton Texaco site, where redevelopment plans include construction of Hotel Adelaide. The first step in our plan was conducting a soil investigation at this site to delineate the horizontal and vertical extent of the soil contamination this site. This letter provides the results of this investigation, which was conducted last week from November 27 through 30, 2012.

The soil investigation consisted of advancing 21 soil borings at the property and collecting two soil samples from each boring, for a total of 42 soil samples. A map showing the analytical results of the samples collected during the investigation and the estimated extent of soil contamination is attached. The map shows the area where concentrations of total petroleum hydrocarbon – gasoline range organics (TPH-GRO) in soil exceed the WDEQ remediation standard of 28 mg/kg. Based on the sample results shown in the attached map, URS estimates that soil is contaminated in an area of approximately 13,800 ft² and is limited to the interval between 3 and 10 feet below ground surface. URS, therefore, estimates that approximately 3,600 cubic yards of contaminated soil are present at the site and will be excavated during construction of the hotel. URS is currently working with a local contractor to develop a cost estimate for removal of contaminated soil. This information will be used to estimate how much of this soil removal can be accomplished using WDEQ's funds (\$100,000).

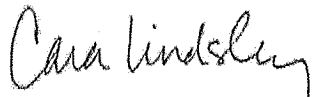
Our plan for addressing soil and groundwater contamination issues will also include a preliminary design for treating contaminated groundwater that is extracted during dewatering. However, to evaluate feasible treatment options, URS needs an estimate of the volume of groundwater that will be extracted during dewatering. We understand that the structural engineer for the hotel is currently preparing the dewatering volume calculations and we will prepare this portion of the plan as soon as this information is available.

URS Corporation
758 East Winchester Street
Suite 400
Salt Lake City, Utah 84107
Tel: 801.904.4000
Fax: 801.904.4100
www.urscorp.com

We will follow up with you next week in preparation for the December 17, 2012 City Council meeting.

Sincerely,

URS CORPORATION

A handwritten signature in cursive script that reads "Cara Lindsley".

Cara Lindsley, P.E.
Senior Environmental Engineer

Cc: Shawn Hill, Town of Jackson
Sterling Roberts, P.E., WDEQ Storage Tank Program
Warner Stone, North Cache Investments, LLC

9.0 CACHE CHEVRON (#1535) / TETON TEXACO (#3436)

9.1. SITE BACKGROUND

The Cache Chevron site is located at 401 North Cache Street, Jackson, Wyoming. It is the present location of an active gas station, and has been a gas station for more than 47 years. Four USTs are currently used at the Cache Chevron site, including one 12,000-gallon gasoline tank, one 8,000-gallon gasoline tank, one 6,000-gallon gasoline tank, and one 500-gallon waste oil tank; these tanks are located on the south side of the service station in one tank basin. A groundwater recovery system operated at this site prior to 1990, and site investigations, including test borings, monitoring well installation, and sampling, were conducted at this site prior to 1990.

In 1988, five gasoline USTs (three 3,000-gallon tanks, one 6,000-gallon tank, and one 12,000-gallon tank) were removed from the tank basin where the present-day USTs currently reside. A 500-gallon waste oil UST and a 1,000-gallon heating oil UST were also removed from the west side of the service station building at that time. During the 1988 tank removal, a spill of 550 gallons of gasoline occurred when one tank was ruptured; some of the spilled fuel was reportedly recovered, and impacted soil was excavated for off-site disposal. During the fall of 1988, a release of an estimated 1,076 gallons of gasoline occurred due to an underground line leak; some of this product was reported to have been recovered.

The Teton Texaco site, located at 375 North Cache Street in Jackson, Wyoming was a service station that included USTs, a fuel dispenser island, and a separate fuel dispenser pump. Four USTs were removed from the site in November 1990, including two 6,000-gallon gasoline tanks, one 500-gallon waste oil tank, and one 500-gallon heating oil tank (GS&E, 1998). The locations of the former tank basins are shown in Figure 9-1. Approximately 186 tons of impacted soil were removed from the tank basins and replaced with clean fill at the time of tank removal.

ORC was injected at both the Cache Chevron and Teton Texaco sites in 2000, followed by Fenton's Reagent injections in 2003 and 2004.

As of November 2014, construction of a new hotel that was planned at the Teton Texaco site has been delayed due to property foreclosure in early 2013. Additional information about potential future construction and remediation is discussed in Section 9.3.1.

9.2. TREND ANALYSIS

Benzene and TPH data were reviewed over the lifetime of the project for MW-016 and MW-407 (Cache Chevron); and MW-TT-2, MW-021, MW-022/MW-022A, MW-025, and MW-300 (Teton Texaco) to evaluate contaminant trends, relationships between water levels and contaminant concentrations, and

effects of remediation efforts on contamination. Charts 9-1 through 9-7, located at the end of this section, present these data with respect to WDEQ remediation standards.

Cache Chevron

Benzene and TPH concentrations at MW-016 have decreased significantly since the ORC application in June 2000. Benzene, TPH-GRO, and TPH-DRO concentrations have remained below their respective remediation standards since October 2003. In August 2014 benzene TPH-GRO, and TPH-DRO were not detected. The Mann-Kendall tests for this well indicate an increasing trend for the TPH-GRO data set, and no trend for the benzene and TPH-DRO data sets.

MW-407 is located approximately 60 feet down gradient from the original tank basin at the Cache Chevron site. Benzene concentrations at MW-407 have fluctuated over the lifetime of the project, with concentrations ranging from <5 µg/L (August 2001) to 510 µg/L (May 2007). The benzene concentration was 129 µg/L in August 2014. TPH-GRO concentrations have remained below the action level since August 2001. TPH-DRO has only been measured during the last ten sampling events, and the concentration was <0.5 mg/L during every sampling event except for a concentration of 0.59 mg/L in May 2010, and 0.68 mg/L in August 2014. The Mann-Kendall tests for this well indicate no trend for any data set.

Teton Texaco

Benzene and TPH concentrations at MW-TT-2 exceeded the remediation standards from September 2001 through October 2004, despite applications of Fenton's Reagent in September 2003 and September 2004. In May 2005, the benzene concentration was 450 µg/L, but it increased to 3,100 µg/L in October 2005. Similar fluctuations have occurred since then with benzene concentrations ranging from 549 µg/L in May 2009 to 3,660 µg/L in October 2008. The benzene concentration in August 2012 was 2,880 µg/L. TPH-GRO has fluctuated seasonally, and the concentration was 20.6 mg/L in August 2012. The TPH-DRO concentration was 2.3 mg/L in August 2012. As of August 2012, the Mann-Kendall tests for this well indicated no trend for any data set. In November 2012, well MW-TT-2 was destroyed during demolition of the building on site (see Section 9.3.1).

Benzene concentrations at MW-021 steadily decreased since the ORC application in June 2000, until August 2013 when concentrations began to increase slightly. Following the Fenton's Reagent applications in September 2003 and September 2004, benzene concentrations decreased from 180 µg/L in October 2004 to 6.8 µg/L in July 2011, then increased to 72.1 µg/L in August 2014. TPH-GRO concentrations have remained below the action level since the ORC application in 2000. TPH-DRO concentrations have remained below the action level of 1.1 mg/L since 2000, but increased to slightly above the action level in August 2014, with a concentration of 1.4 mg/L. The Mann-Kendall tests for this

well indicate a decreasing trend for the benzene, whereas no trend is indicated for the either of the TPH-GRO or TPH-DRO data sets.

Benzene concentrations at MW-022 fluctuated seasonally around 4,000 µg/L until the Fenton's Reagent application in September 2004, when the well was damaged due to the high temperatures of the application. The well was replaced in Spring 2005, and renamed MW-022A. Since then, benzene, TPH-GRO, and TPH-DRO concentrations decreased (lowest concentration of benzene was 154 µg/L in October 2010) until the most recent two sampling rounds (July 2011 and August 2012). The concentrations in August 2012 of benzene, TPH-GRO, and TPH-DRO were 1,590 µg/L, 10.8 mg/L, and 3.7 mg/L, respectively. In November 2012, well MW-022A was destroyed during demolition of the building on site (see Section 9.3.1). The significant decrease in concentrations at MW-022A (an order of magnitude lower than well MW-022) that occurred between May 2004 and May 2005 suggests that the new well is not close enough to the original well to be considered a replacement well. Therefore, only the data collected from well MW-022A, after the Fenton's Application in 2004, were evaluated for trends. As of August 2012, the Mann-Kendall tests for this well indicated a decreasing trend for the benzene data set, whereas no trend was indicated for either of the TPH-GRO or TPH-DRO data sets.

Benzene concentrations at MW-025 have generally fluctuated inversely with groundwater elevations since sampling began. Both fall and spring benzene concentrations have decreased since September 2004, when the most recent application of Fenton's Reagent occurred. However, the benzene concentration at this well increased from 253 µg/L in May 2009 to 1,550 µg/L in October 2010, to 2,910 µg/L in August 2013. In August 2014, the benzene concentration decreased to 84.4 µg/L. TPH-GRO and TPH-DRO concentrations initially decreased after the 2004 Fenton's Reagent application, but remained at or above their respective action levels until August 2014, when both concentrations were not detected (<0.5 mg/L for TPH-GRO and TPH-DRO). The Mann-Kendall tests for this well indicate a decreasing trend for the benzene data set, whereas no trends are indicated for the TPH-GRO and TPH-DRO data sets.

Benzene concentrations at MW-300 decreased from August 2001 until September 2007, with benzene concentrations below the action level of 5 µg/L from October 2005 to September 2007. Benzene concentrations have since rebounded, with a concentration of 1,320 µg/L in August 2014. TPH-GRO concentrations have remained below the action level since August 2001. TPH-DRO had remained below the action level since May 2002, until the two most recent sampling rounds (August 2013 and August 2014) when the concentrations were slightly above the action level at 1.6 and 1.5 mg/L, respectively. The Mann-Kendall tests for this well indicate an increasing trend for the TPH-GRO data set, whereas no trend is indicated for either the benzene or TPH-DRO data sets.

9.2.1 Additional Wells of Interest

At the Teton Texaco site, well MW-023 is located near the eastern edge of the former Teton Texaco property. Benzene concentrations have exceeded the WDEQ remediation standard at MW-023 since May 2002, except for Round 17 (May 2010). The benzene concentration at MW-023 in August 2014 was 23.2 µg/L. Well MW-026 is located near the southern edge of the former Teton Texaco property and was added back into the sampling list in 2011. Benzene was not detected at MW-026 in July 2011, but was detected at a concentration of 12.9 µg/L in August 2012, then decreased to 3.6 µg/L in August 2013. In late 2013 or early 2014, MW-026 was destroyed.

9.3. PLANNED ACTIONS

9.3.1. Remedial Activities

Remedial efforts at the site since 2000 have included several injections of various agents intended to promote biodegradation and physically destroy subsurface contaminants. Although these efforts have reduced contaminant concentrations in groundwater, remediation goals have not been met. As discussed in Section 11 of this report, estimates of the rate of groundwater remediation at the former Teton Texaco site suggest that groundwater will not clean up in a reasonable timeframe unless contaminated soils, which act as a continuing source of contamination, are removed from the site.

After learning that the former Teton Texaco site was being considered for redevelopment, URS submitted to WDEQ a memorandum entitled "Excavation Evaluation for Jackson Remediation Project – Teton Texaco Site," on May 15, 2008 (URS, 2008d), which recommended excavating contaminated soils following site demolition. In late 2012, plans to redevelop the former Teton Texaco site as a new hotel were formalized. Preliminary construction activities, conducted in November 2012, included demolishing the buildings on site in preparation for hotel construction.

Because much of the soil and groundwater contamination at the Teton Texaco site was estimated to be located under the existing former service station building, WDEQ believed the site demolition presented a unique opportunity to reach the previously inaccessible area of contamination and allocated \$100,000 for a soil removal. Moreover, the hotel that was planned for the site was proposed to include two levels of below-ground parking, so construction would require removal of nearly all of the contaminated soil. If the excavation and hotel construction were timed correctly, backfilling and compacting the excavation would not be required and the amount of contaminated soil removed for WDEQ's \$100,000 budget could be maximized. The contaminated soil removal was tentatively planned to be funded partially by WDEQ, and partially by the developers of the new hotel. Following a URS soil investigation at the site in November 2012, the volume of contaminated soil was estimated to be approximately 4,000 cubic yards (approximately 6,000 tons).

Hotel development plans were delayed following property foreclosure in early 2013. In late 2013, to determine remediation options that could be accomplished within WDEQ's allotted budget of \$100,000, URS issued a Request for Bid to construction contractors for contaminated soil removal and disposal. Bidders were instructed to determine the amount of contaminated soil that could be removed from the site and properly disposed of, without exceeding the \$100,000 budget. Because the excavation would not coincide with hotel construction, backfilling and compaction would be required in this scenario. Three bids were received, indicating that between 500 and 750 tons of contaminated soil, approximately 10% of the estimated quantity of contaminated soil at the site, could be removed for \$100,000. WDEQ chose not to implement the soil removal because it was not considered a cost effective remedial alternative for the site. Removing 10% of the contaminated soil (the quantity of soil that could be removed for the allotted dollar amount) was not anticipated to reduce groundwater contamination, and it is likely that the clean backfill placed in the excavation would quickly become recontaminated by the high concentrations of groundwater contamination in the adjacent areas.

Based on the available options for disposing of petroleum contaminated soil, excavation/disposal is not currently an economically viable alternative for the former Teton Texaco site. However, WDEQ will continue to evaluate innovative remedial alternatives that minimize the distance soil must be transported for disposal, or that can quickly treat the excavated soil so that it can be placed back in the excavation.

At the Cache Chevron site, URS recommends evaluating remedial alternatives to address the residual groundwater contamination. An existing tank basin and active service station at the site limit the feasible options for remediating the site, but contaminant concentrations in the area of MW-407 exceed WDEQ restoration standards and appear to be relatively stable, which will prevent the site from proceeding to closure in a reasonable timeframe without implementation of additional remediation.

9.3.2. Expansion of Monitoring Network Using Existing Monitoring Wells

Because of high benzene concentrations at MW-300, MW-025, and MW-407, URS recommends continued sampling of downgradient monitoring wells MW-029, MW-034, and MW-152 during subsequent groundwater sampling events to monitor the northwestern edge of the plumes.

9.3.3 Monitoring Well Installation

URS recommends replacing monitoring wells MW-TT-2 and MW-022A. These wells were located in the most contaminated portion of the site prior to their destruction in November 2012, and are essential for continued monitoring of contaminant concentrations in groundwater.

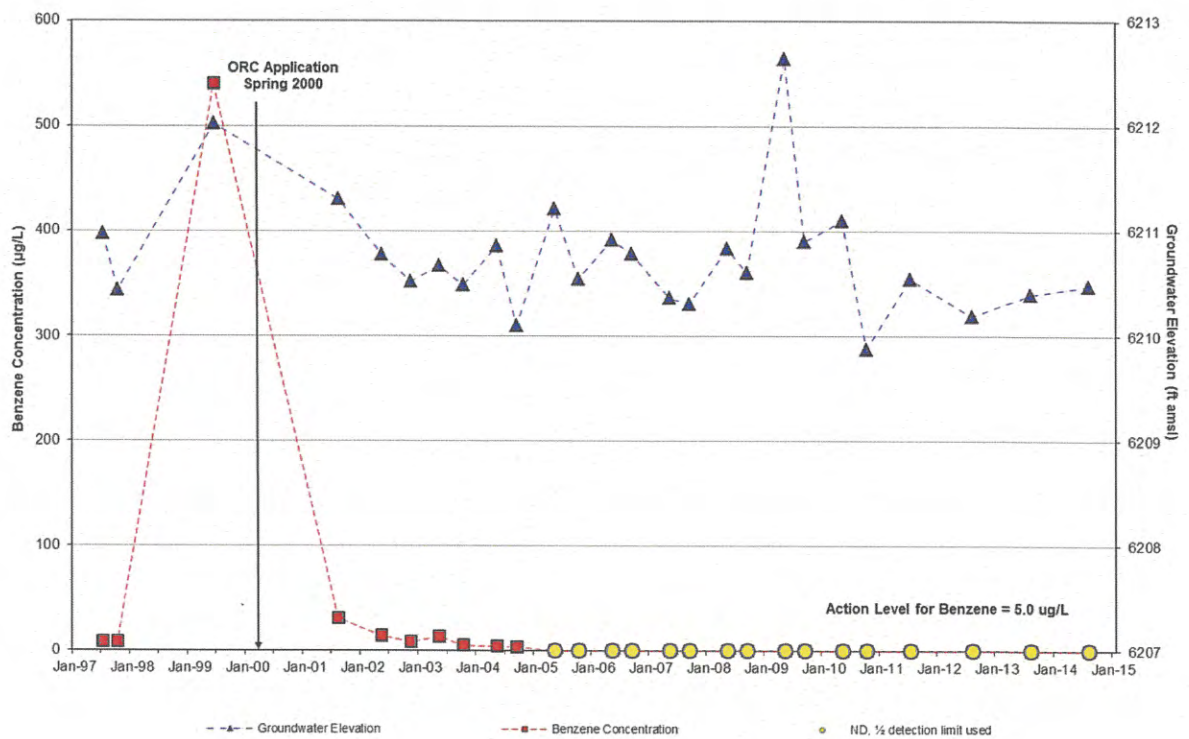
9.3.4 Vapor Intrusion Assessment

If construction of a new hotel at the site resumes, URS will evaluate the potential for vapor intrusion both at the hotel (Teton Texaco site) and at the property to the west of the Teton Texaco site. If the potential for vapor intrusion is confirmed URS will evaluate mitigation alternatives.

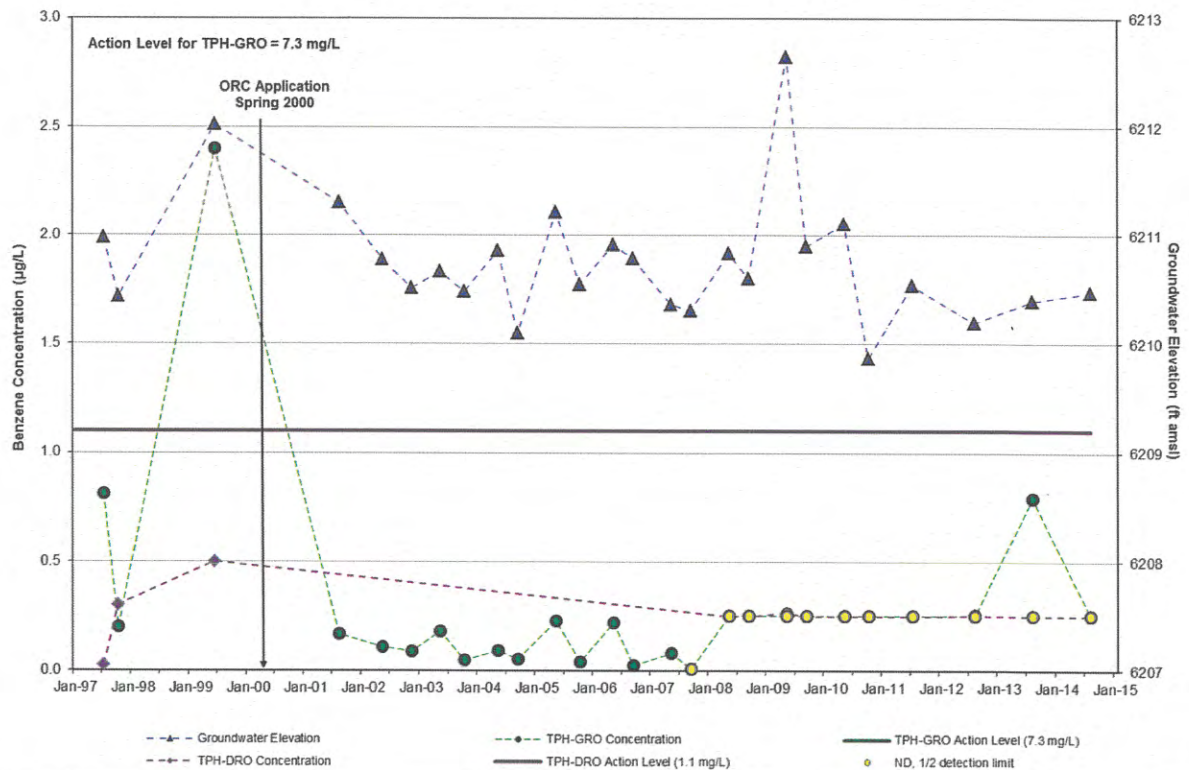
9.3.5 Continued Monitoring

Groundwater monitoring will continue at this site until WDEQ remediation standards are met. Groundwater sampling for MBTEXN, TPH-GRO, and TPH-DRO was conducted at the site on a semiannual basis from 2000 until 2011, when sampling was reduced to an annual basis. Groundwater sampling will continue to be conducted on an annual basis in late summer or early fall, to coincide with higher seasonal water levels and higher benzene concentrations (on average).

MW-016 Benzene Concentrations and Groundwater Elevations



MW-016 TPH Concentrations and Groundwater Elevations



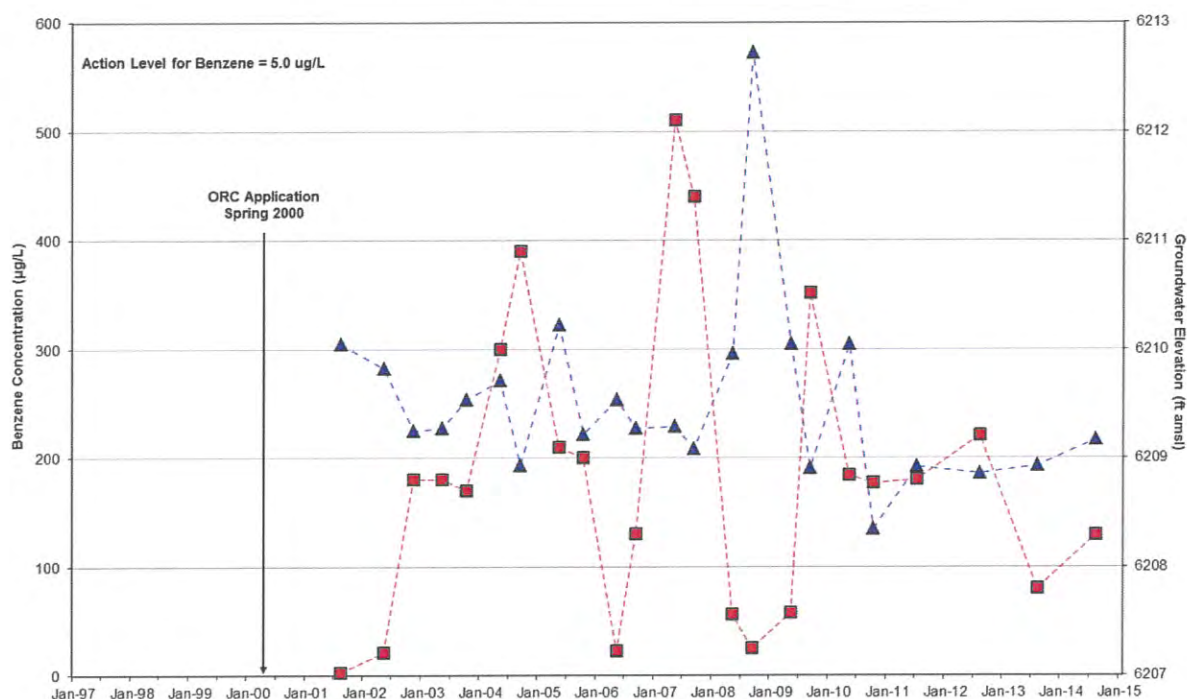
Jackson LAUST
Jackson, WY

Trend Analysis for MW-016 Cache Chevron Site, 1997-2014

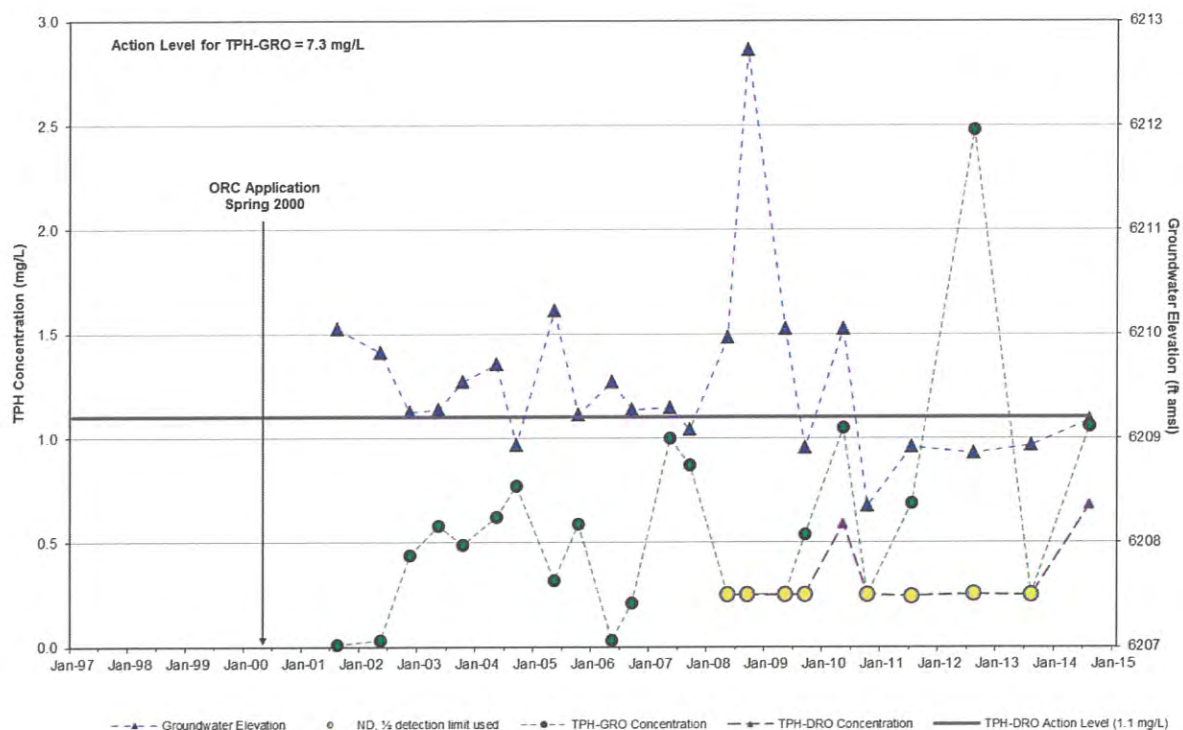
Chart 9-1

URS

MW-407 Benzene Concentrations and Groundwater Elevations



MW-407 TPH Concentrations and Groundwater Elevations



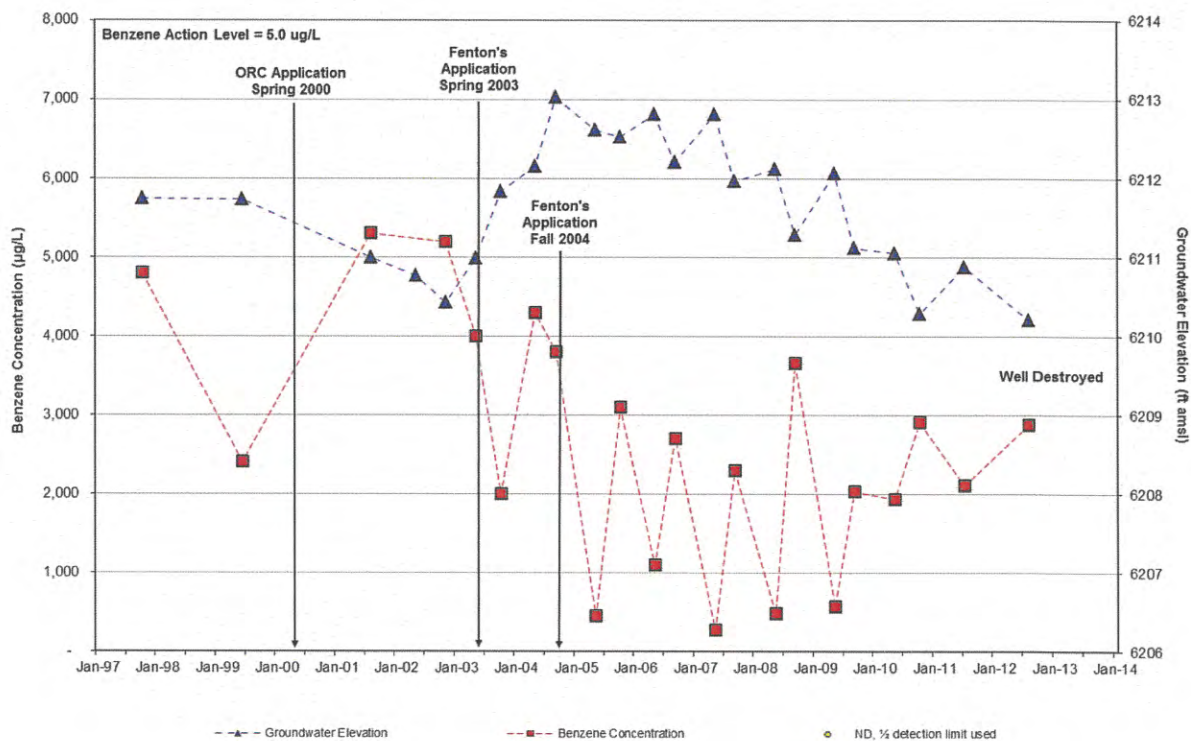
Jackson LAUST
Jackson, WY

Trend Analysis for MW-407 Cache Chevron Site, 1997-2014

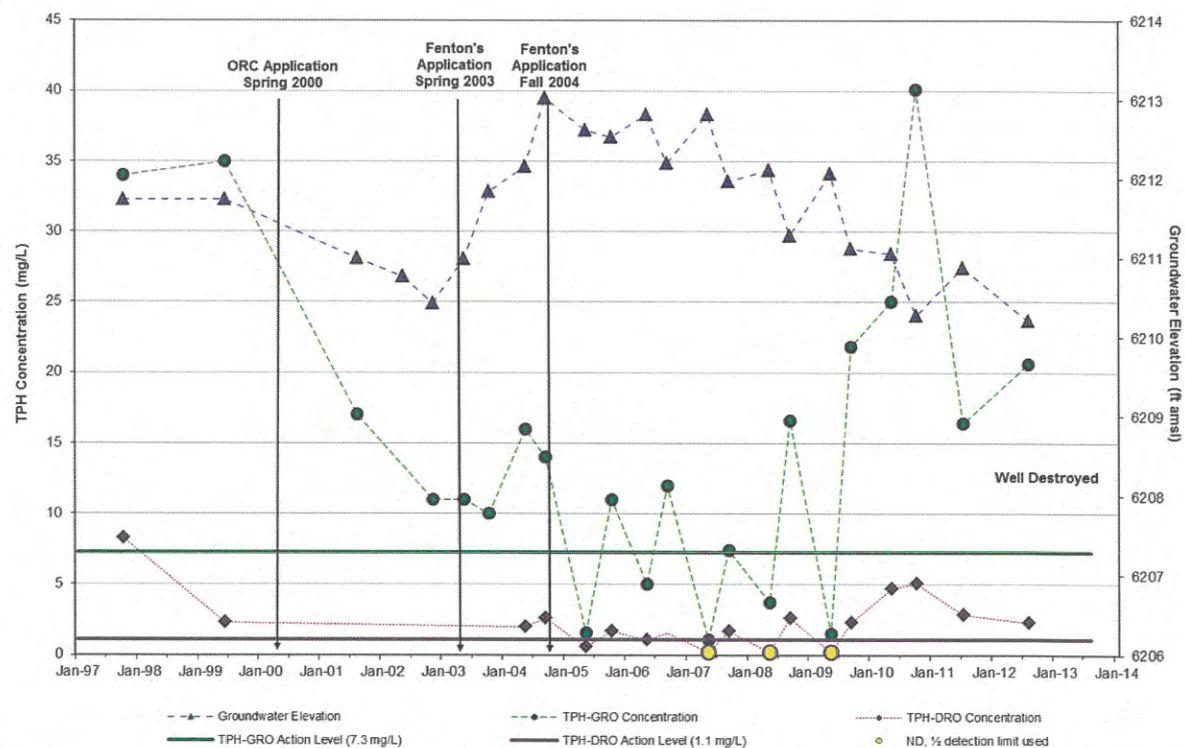
Chart 9-2

URS

MW-TT-2 Benzene Concentrations and Groundwater Elevations



MW-TT-2 TPH Concentrations and Groundwater Elevations



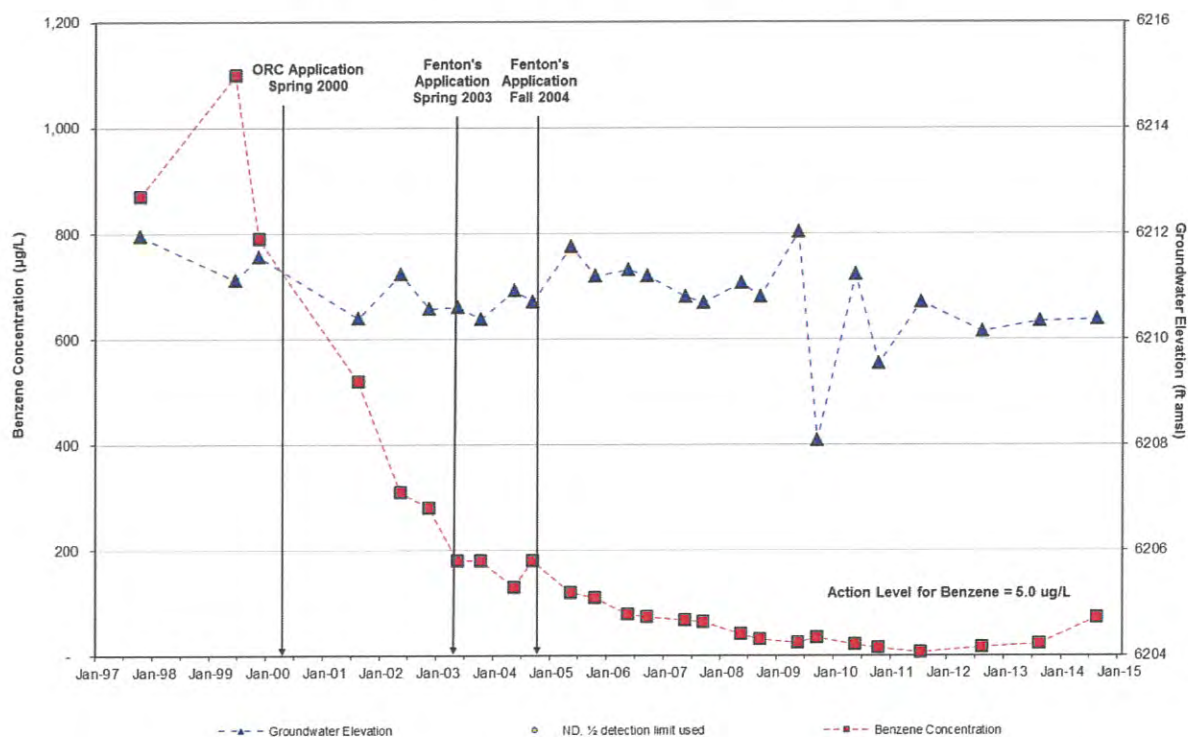
Jackson LAUST
Jackson, WY

Trend Analysis for MW-TT-2 Teton Texaco Site, 1997-2012

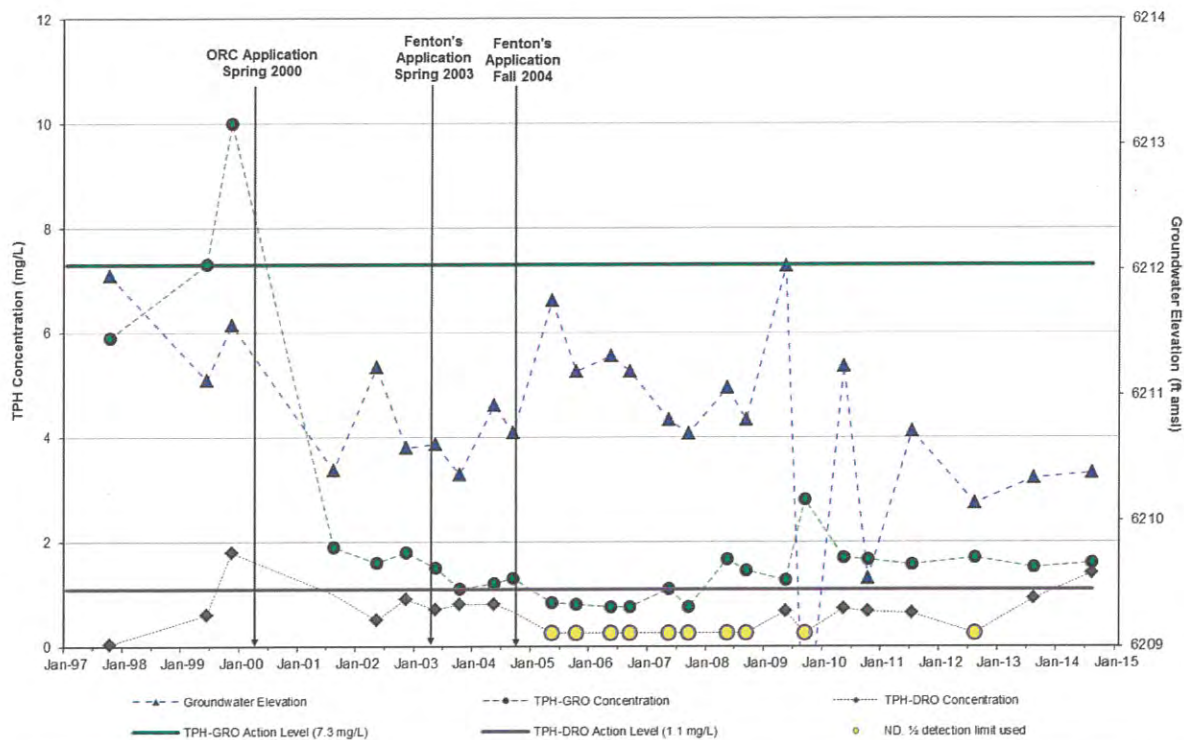
Chart 9-3

URS

MW-021 Benzene Concentrations and Groundwater Elevations



MW-021 TPH Concentrations and Groundwater Elevations



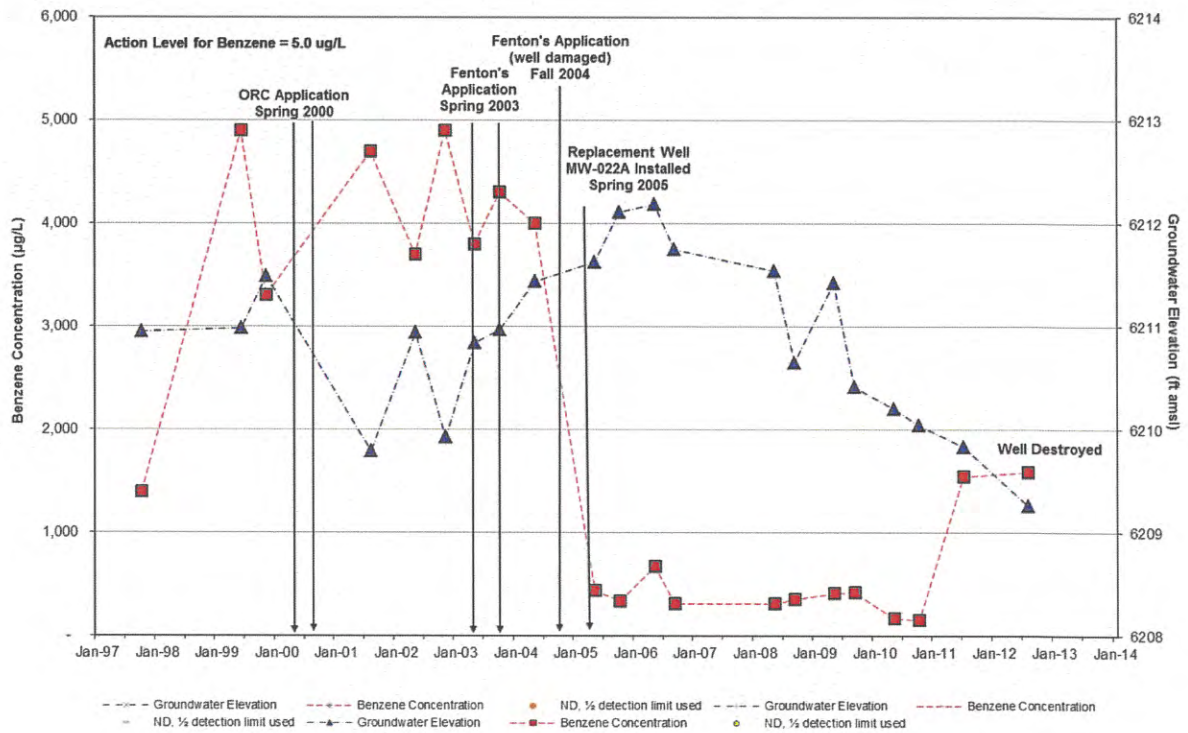
Jackson LAUST
Jackson, WY

Trend Analysis for MW-021 Teton Texaco Site, 1997-2014

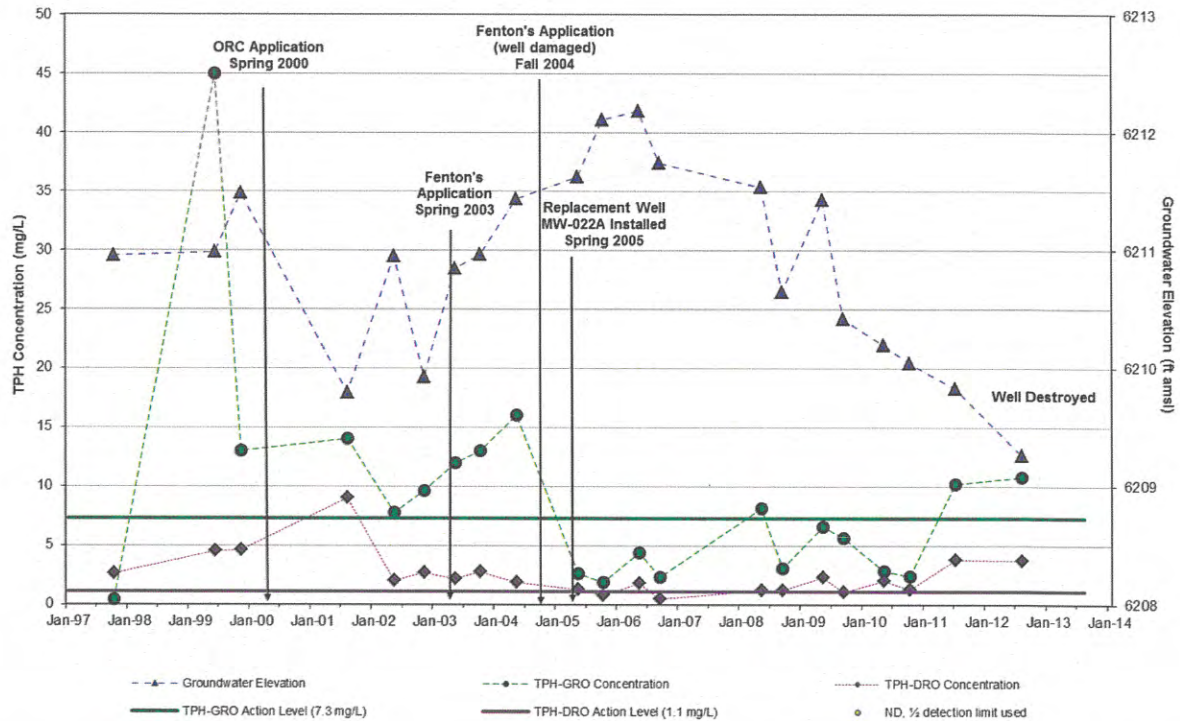
Chart 9-4

URS

MW-022/MW-022A Benzene Concentrations and Groundwater Elevations



MW-022/MW-022A TPH Concentrations and Groundwater Elevations



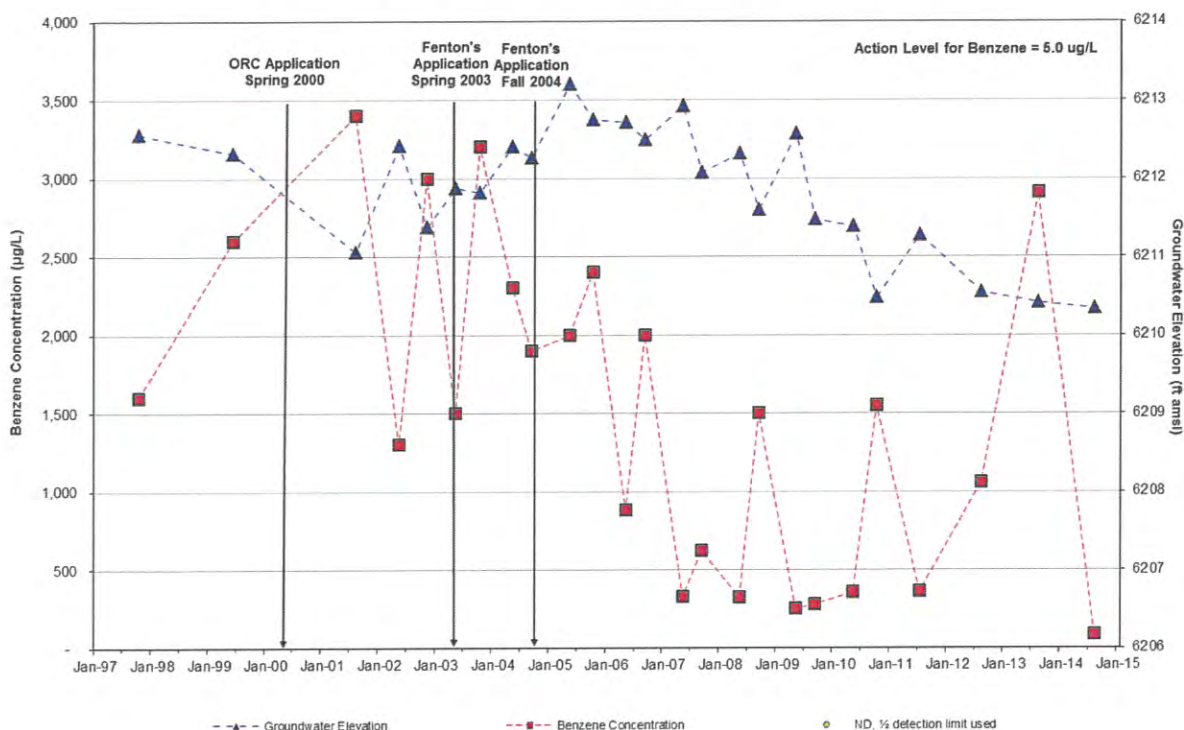
Jackson LAUST
Jackson, WY

Trend Analysis for MW-022 Teton Texaco Site, 1997-2012

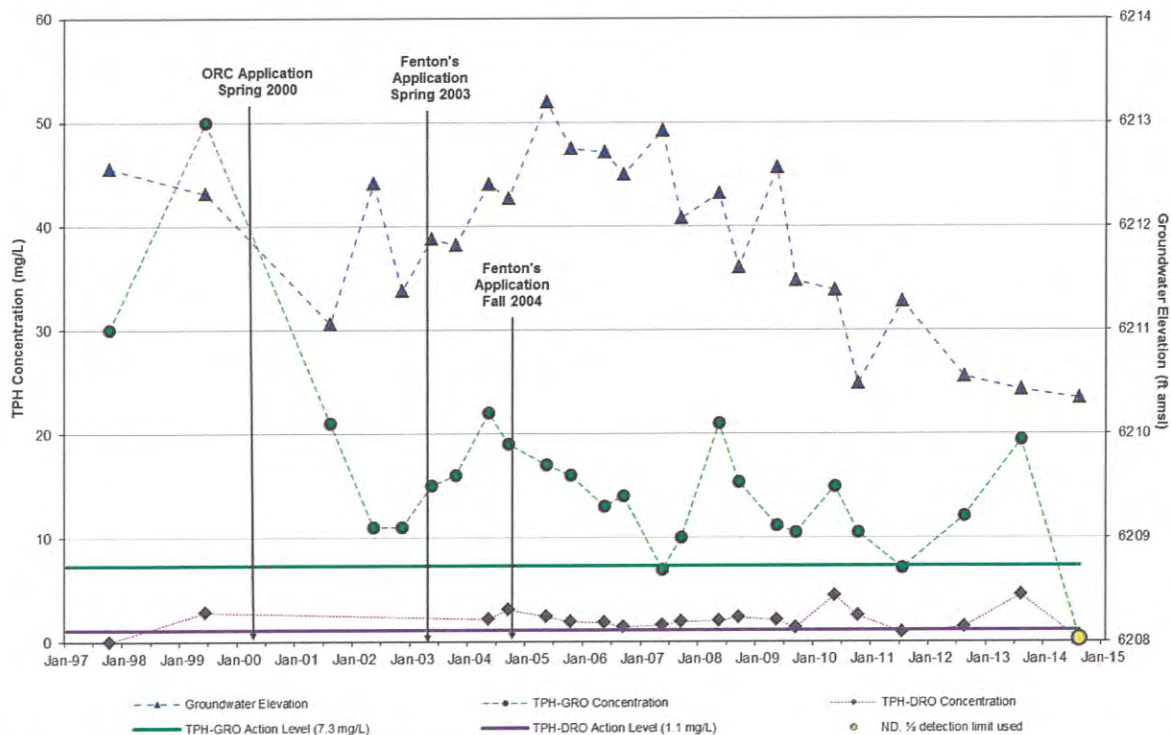
Chart 9-5

URS

MW-025 Benzene Concentrations and Groundwater Elevations



MW-025 TPH Concentrations and Groundwater Elevations



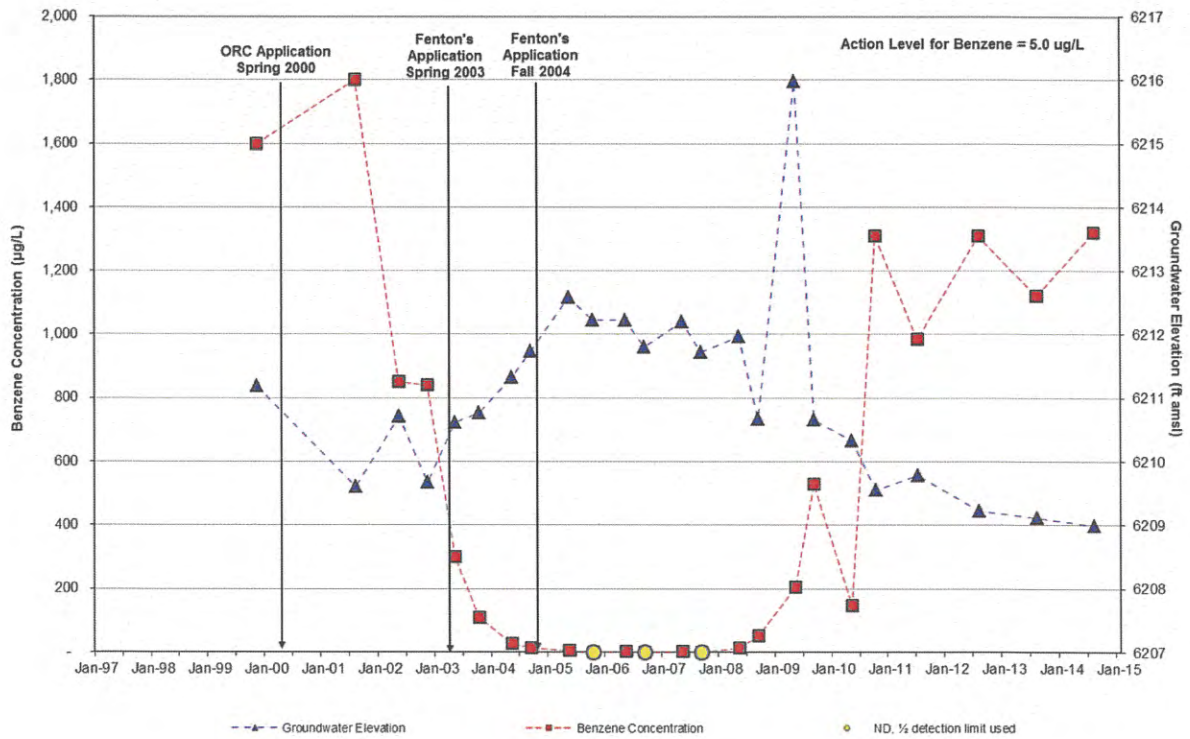
Jackson LAUST
Jackson, WY

Trend Analysis for MW-025 Teton Texaco Site, 1997-2014

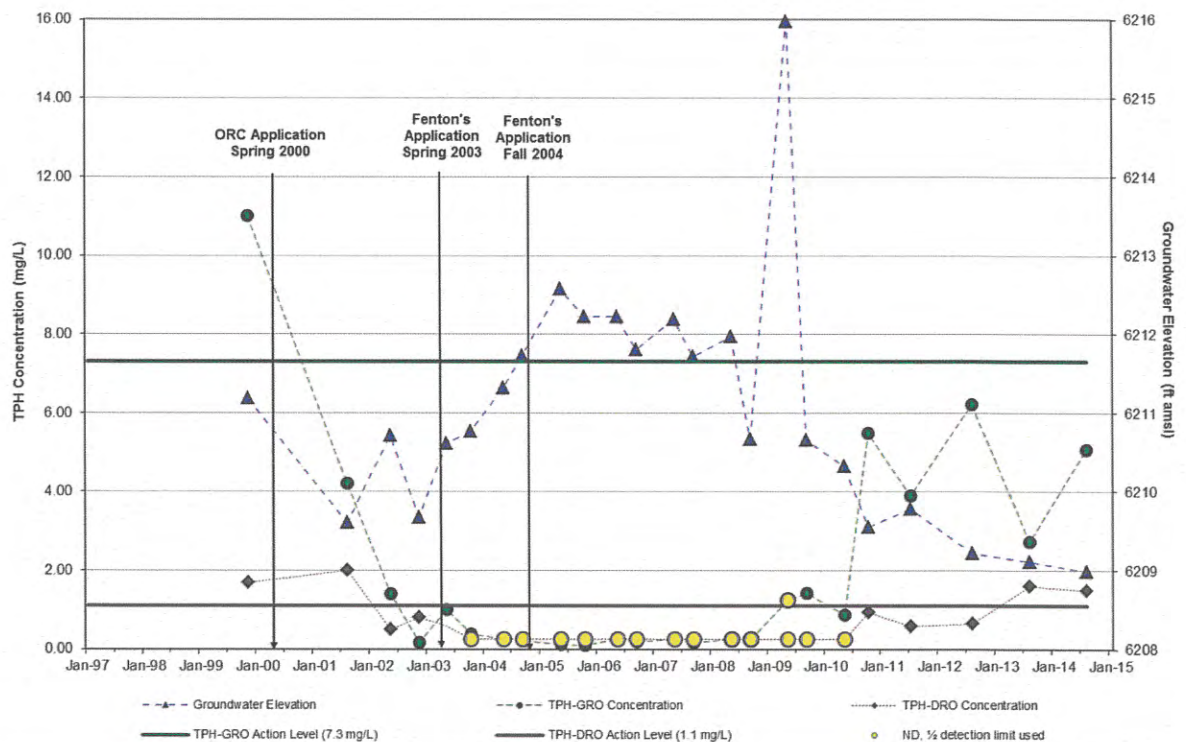
Chart 9-6

URS

MW-300 Benzene Concentrations and Groundwater Elevations



MW-300 TPH Concentrations and Groundwater Elevations

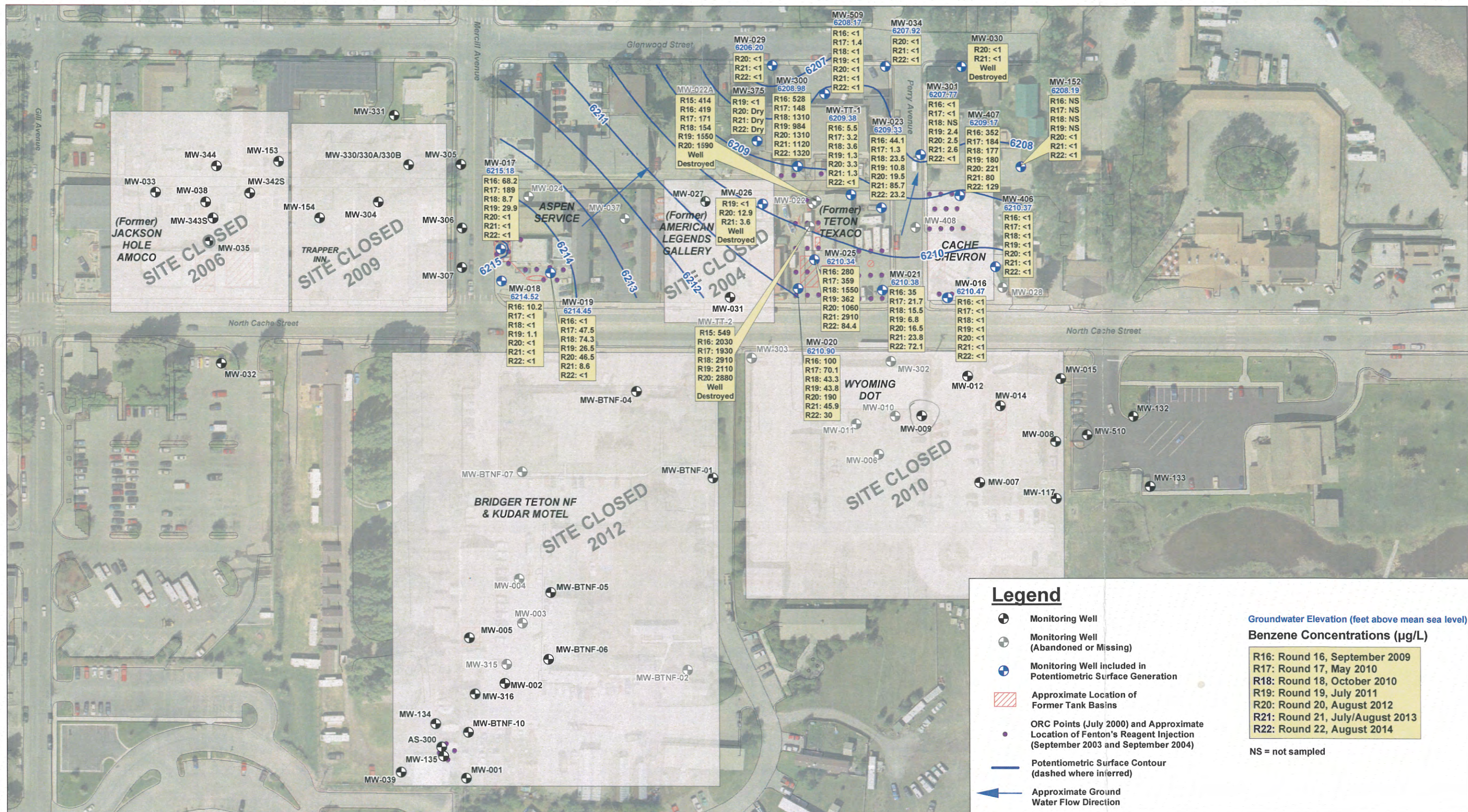


Jackson LAUST
Jackson, WY

Trend Analysis for MW-300 Teton Texaco Site, 1997-2014

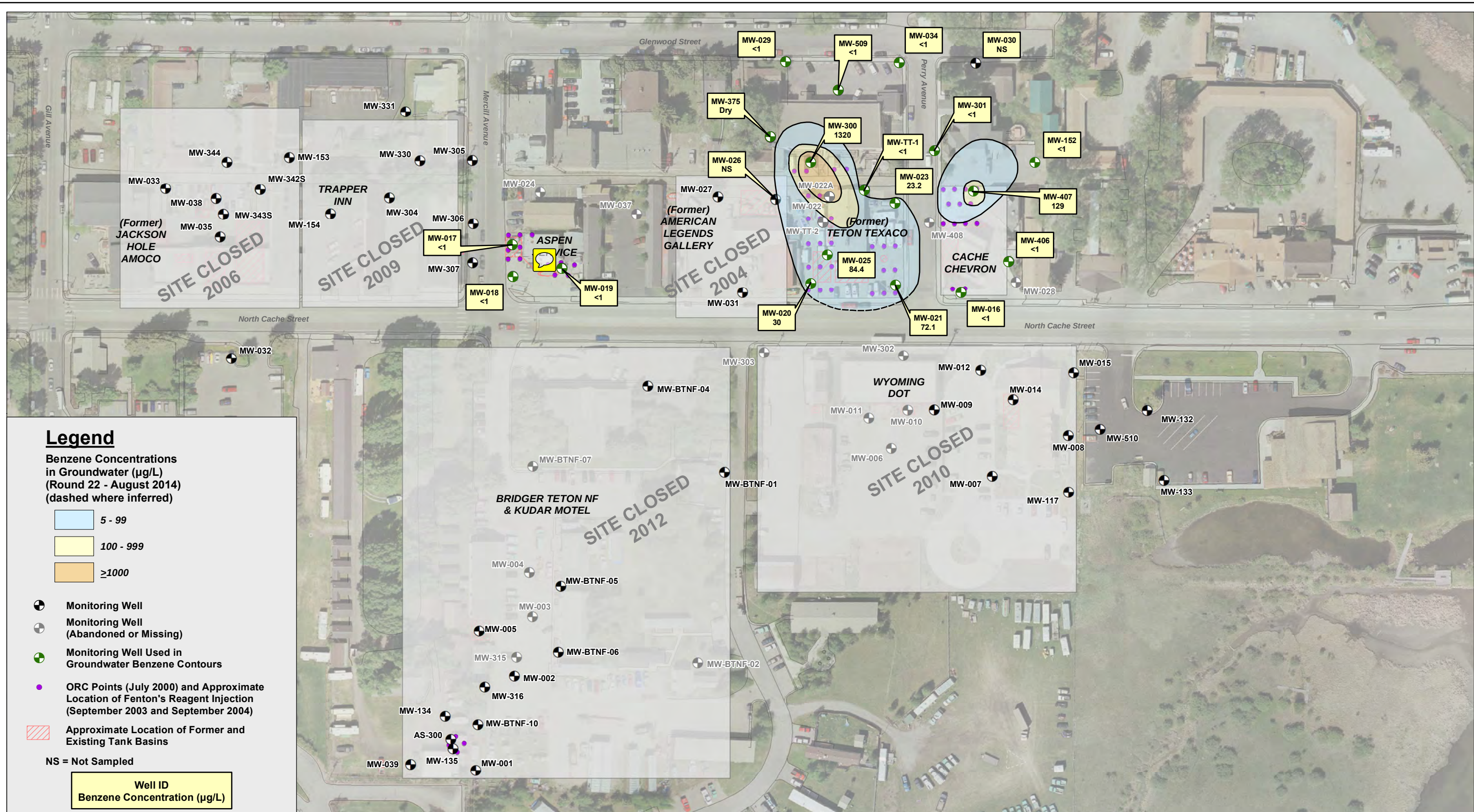
Chart 9-7

URS



**Historic Benzene Concentrations and
Round 22 Potentiometric Surface
North Jackson Sites
Jackson Remediation Project
Jackson, WY**

Q:\Projects\wy-deq\Jackson05_Analysis and Engineering\Jackson CAD and GIS Files\Round22\Figures-2_Benzene_Isocons_NorthJacksonSites.mxd



60 0 60 120
Feet



Round 22 Benzene Isoconcentration Contours
North Jackson Sites
Jackson Remediation Project
Jackson, WY

Figure 9-2



7.0 CACHE CHEVRON (#1535) / TETON TEXACO (#3436)

7.1. SITE BACKGROUND

The Cache Chevron site is located at 401 North Cache Street, Jackson, Wyoming. It is the present location of an active gas station, and has been a gas station for more than 47 years. Four USTs are currently used at the Cache Chevron site, including one 12,000-gallon gasoline tank, one 8,000-gallon gasoline tank, one 6,000-gallon gasoline tank, and one 500-gallon waste oil tank; these tanks are located on the south side of the service station in one tank basin. A groundwater recovery system operated at this site prior to 1990, and site investigations, including test borings, monitoring well installation, and sampling, were conducted at this site prior to 1990.

In 1988, five gasoline USTs (three 3,000-gallon tanks, one 6,000-gallon tank, and one 12,000-gallon tank) were removed from the tank basin where the present-day USTs currently reside. A 500-gallon waste oil UST and a 1,000-gallon heating oil UST were also removed from the west side of the service station building at that time. During the 1988 tank removal, a spill of 550 gallons of gasoline occurred when one tank was ruptured; some of the spilled fuel was reportedly recovered, and impacted soil was excavated for off-site disposal. During the fall of 1988, a release of an estimated 1,076 gallons of gasoline occurred due to an underground line leak; some of this product was reported to have been recovered.

The Teton Texaco site, located at 375 North Cache Street in Jackson, Wyoming was a service station that included USTs, a fuel dispenser island, and a separate fuel dispenser pump. Four USTs were removed from the site in November 1990, including two 6,000-gallon gasoline tanks, one 500-gallon waste oil tank, and one 500-gallon heating oil tank (GS&E, 1998). The locations of the former tank basins are shown in Figure 7-1. Approximately 186 tons of impacted soil were removed from the tank basins and replaced with clean fill at the time of tank removal.

ORC was injected at both the Cache Chevron and Teton Texaco sites in 2000, followed by Fenton's Reagent injections in 2003 and 2004 at the Teton Texaco site.

Construction that was planned at the Teton Texaco site has been delayed due to property foreclosure in early 2013. Additional information about potential future construction and remediation is discussed in Section 7.3.1.

7.2. TREND ANALYSIS

Groundwater samples were collected at the Cache Chevron and Teton Texaco sites during Round 26 in October 2016. Benzene and TPH data were reviewed over the lifetime of the project for MW-407 (Cache Chevron); and MW-TT-2/MW-TT-2R, MW-021, MW-022/MW-022A/MW-022R, MW-025, and MW-300

(Teton Texaco) to evaluate contaminant trends, relationships between water levels and contaminant concentrations, and effects of remediation efforts on contamination. Current and historic MBTEXN, TPH, Metals, and Fuel Oxygenate sampling results are shown in Tables 7-1 and 7-2, and Charts 7-1 through 7-6, located at the end of this section, present these data with respect to WDEQ remediation standards.

Cache Chevron

MW-407 is located approximately 60 feet down gradient from the original tank basin at the Cache Chevron site. Benzene concentrations at MW-407 have fluctuated over the lifetime of the project, with concentrations ranging from non-detect (September 2001) to 654 µg/L (October 2015). Benzene concentrations fell below the detection limit during the October 2016 sampling event (Chart 7-1). TPH-GRO concentrations have remained below the action level since sampling began in September 2001 and were reported as non-detect in October 2016. TPH-DRO has only been measured during the last twelve sampling events, and the concentration was non-detect during every sampling event except for concentrations of 0.59 mg/L in May 2010, 0.68 mg/L in August 2014, and 0.54 mg/L in October 2015. The Mann-Kendall test for this well indicates no trend for any data set.

Teton Texaco

Benzene and TPH concentrations at MW-TT-2 exceeded the remediation standards from September 2001 through October 2004, despite applications of Fenton's Reagent in September 2003 and September 2004. In May 2005, the benzene concentration was 450 µg/L, but it increased to 3,100 µg/L in October 2005. Similar fluctuations have occurred since then with benzene concentrations ranging from 570 µg/L in May 2009 to 3,660 µg/L in October 2008. In November 2012, well MW-TT-2 was destroyed during demolition of the building on site (see Section 7.3.1). On May 5, 2015, a new well, MW-TT-2R, was installed near the previous location of MW-TT-2. Concentrations at well MW-TT-2R are consistent with the concentrations recorded at well MW-TT-2. During the October 2016 sampling event, benzene was recorded at 2,500 µg/L, TPH-GRO was recorded at 17 mg/L, and TPH-DRO was recorded at 2.2 mg/L (Chart 7-2). The Mann-Kendall test for this well indicates no trend for any data set.

Benzene concentrations at MW-021 steadily decreased after the ORC application in June 2000 and Fenton's Reagent applications in September 2003 and September 2004 until July 2011, when benzene was reported at 6.8 µg/L. Benzene concentrations increased over the next five sampling events, with a concentration of 84.7 µg/L reported in October 2015. Benzene concentrations were reported below the detection level in October 2016 (Chart 7-3). TPH-GRO concentrations have remained below the action level since the ORC application in 2000 and were reported at 1.3 mg/L in October 2016. TPH-DRO concentrations were reported below the action level of 1.1 mg/L since sampling began in 2001, except for the sample from May 2015, which was reported at 1.4 mg/L. TPH-DRO was reported at 0.6 mg/L in the October 2016 sampling event. The Mann-Kendall test for this well indicates a decreasing trend for the benzene, whereas no trend is indicated for either of the TPH-GRO or TPH-DRO data sets.

Benzene concentrations at MW-022 fluctuated seasonally around 4,000 µg/L until the Fenton's Reagent application in September 2004, when the well was damaged due to the high temperatures of the application. The well was replaced in Spring 2005, and renamed MW-022A. After the well was replaced, benzene, TPH-GRO, and TPH-DRO concentrations decreased (benzene was 154 µg/L, TPH-DRO was 2.42 mg/L, and TPH-DRO was 1.3 mg/L in October 2010) until July 2011 when the concentrations of benzene, TPH-GRO, and TPH-DRO increased to 1,550 µg/L, 10.2 mg/L, and 3.8 mg/L, respectively (Chart 7-4). Concentrations in the August 2012 samples were similarly high. In November 2012, well MW-022A was destroyed during demolition of the building on site (see Section 7.3.1). On May 6, 2015, a new well, MW-22R, was installed near the previous location of MW-22A. In October 2016, concentrations of benzene, TPH-GRO, and TPH-DRO had decreased to 210 µg/L, 1.9 mg/L, and 0.81 mg/L, respectively. The Mann-Kendall test for this well indicates no trend for any data set.

Benzene concentrations at MW-025 have generally fluctuated inversely with groundwater elevations since sampling began. Benzene concentrations had decreased after September 2004, when the most recent application of Fenton's Reagent occurred. However, the benzene concentration at this well increased from 253 µg/L in May 2009 to 1,550 µg/L in October 2010, and then to 2,910 µg/L in August 2013. In August 2014, the benzene concentration decreased to 84.4 µg/L, but increased to 1,570 µg/L in October 2015 and 2,300 µg/L in October 2016 (Chart 7-5). TPH-GRO and TPH-DRO concentrations initially decreased after the 2004 Fenton's Reagent application, but remained at or above their respective action levels until August 2014, when both concentrations were non-detect (<0.5 mg/L for TPH-GRO and TPH-DRO). In October 2016, the TPH-GRO and TPH-DRO concentration increased to 20 mg/L and 2.9 mg/L, respectively, both above their respective action levels. The Mann-Kendall test for this well indicates no trend for any data set.

Benzene concentrations at MW-300 decreased from August 2001 until September 2007, with benzene concentrations below the action level of 5 µg/L from October 2005 to October 2007. In May 2008, benzene concentrations began to increase and were greater than 1,000 µg/L in 2010, 2012, 2013, and 2014, then fell to 233 µg/L in October 2015 and to non-detect levels in October 2016. TPH-GRO concentrations have been below the action level since August 2001 and were reported as non-detect in October 2015 and October 2016. TPH-DRO had been below the action level from May 2002 until August 2013 and August 2014 sampling events when the concentrations were slightly above the action level at 1.6 and 1.5 mg/L, respectively. In October 2015 the TPH-DRO concentration had once again fallen below the action level to 0.59 mg/L and was reported as non-detect in October 2016 (Chart 7-6). The Mann-Kendall test for this well indicates an increasing trend for the TPH-GRO data set, whereas no trend is indicated for either the benzene or TPH-DRO data sets.

7.3. PLANNED ACTIONS

7.3.1. Remedial Activities

Remedial efforts at the site since 2000 have included several injections of various agents intended to promote biodegradation and physically destroy subsurface contaminants. Although these efforts have reduced contaminant concentrations in groundwater, remediation goals have not been met. As discussed in Section 11 of this report, estimates of the rate of groundwater remediation at the former Teton Texaco site suggest that groundwater will not clean up in a reasonable timeframe unless contaminated soils, which act as a continuing source of contamination, are removed from the site.

After previously learning that the former Teton Texaco site was being considered for redevelopment, URS submitted to WDEQ a memorandum entitled “Excavation Evaluation for Jackson Remediation Project – Teton Texaco Site,” on May 15, 2008 (URS, 2008c), which recommended excavating contaminated soils following site demolition. In late 2012, plans to redevelop the former Teton Texaco site as a new hotel were formalized. Preliminary construction activities, conducted in November 2012, included demolishing the buildings on site in preparation for hotel construction. During that demolition, wells MW-22A and MW-TT-2 were destroyed.

Because much of the soil and groundwater contamination at the Teton Texaco site was estimated to be located under the existing former service station building, WDEQ believed the site demolition presented a unique opportunity to reach the previously inaccessible area of contamination and allocated \$100,000 for a soil removal. Moreover, the hotel that was previously planned for the site was proposed to include two levels of below-ground parking, so construction would require removal of nearly all of the contaminated soil. If the excavation and hotel construction were timed correctly, backfilling and compacting the excavation would not be required and the amount of contaminated soil removed for WDEQ’s \$100,000 budget could be maximized. Removal of impacted soil and replacing it with clean fill in contact with contaminated groundwater prior to site redevelopment would make the new fill contaminated and affect the cleanup efficiency.

The contaminated soil removal was tentatively planned to be funded partially by WDEQ, and partially by the developers of the new hotel. Following a URS soil investigation at the site in November 2012, the volume of contaminated soil was estimated to be approximately 4,000 cubic yards (approximately 6,000 tons). URS will continue to evaluate remedial alternatives necessary to move the site towards closure, separate from or coinciding with, development of the property.

At the Cache Chevron site, chemical injections were performed in Spring 2016 to address the residual groundwater contamination in the area of MW-407 to treat benzene concentrations that exceed WDEQ restoration standards. Details of the injection are described below in Section 7.3.2. Additional sampling of

MW-407 is recommended in early Spring 2017 to provide data to assess whether another round of injections is needed in Spring 2017.

7.3.2. Chemical Oxidation Injection

On May 16, 2016, URS performed an injection of Oxygen Release Compound Advanced (ORC Advanced®) at the Cache Chevron site. The work plan (URS, 2016b) called for injection of 1,600 pounds of ORC Advanced® in the 3-15 ft bgs interval in 22 drill holes in the area immediately up gradient of MW-407. The injections were performed without complication. Injection results were detailed in the *Jackson 2016 Injection and Air Sparge System Repair Report* (URS, 2016c). Benzene concentrations at the wells at the Cache Chevron site have fallen to below the detection level. URS recommends additional sampling of MW-407 in early Spring 2017 to provide data to assess whether another round of injections is needed in Spring 2017. If an additional round of chemical injections is needed, URS recommends that the new injection points be offset from the previous injection points at the Cache Chevron site.

7.3.3. Vapor Intrusion Assessment

If construction of a new hotel at the site resumes, URS will evaluate the potential for vapor intrusion both at the hotel (Teton Texaco site) and at the property to the west of the Teton Texaco site. If the potential for vapor intrusion is confirmed, URS will evaluate mitigation alternatives.

7.3.4. Continued Monitoring

Groundwater monitoring will continue at this site until WDEQ remediation standards are met. Groundwater sampling for MBTEXN, TPH-GRO, and TPH-DRO was conducted at the site on a semiannual basis from 2000 until 2011, when sampling was reduced to an annual basis. Groundwater sampling will continue to be conducted on an annual basis in late summer or early fall, to coincide with higher seasonal water levels and higher benzene concentrations (on average).

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Table 7-1: Teton Texaco/Cache Chevron Sampling Data - BTEXMN & Total Petroleum Hydrocarbons

			Groundwater Measurement Data				Field Parameter Data	Analytical Results & Action Levels									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Dissolved Oxygen (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Total Xylene (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)
								5	1000	700	NL	NL	10000	40	1300	7.3	1.1
Teton Texaco/Cache Chevron																	
MW-016																	
BL	N	9/11/2001	4.34	6211.62	--		0.51	31	<5	10	<5	<5	NA	45	<5	0.17	NA
R1	N	5/7/2002	4.87	6211.09	--		1.17	14	<1	<1	NA	NA	3	20	6	0.11	NA
R2	N	11/4/2002	5.13	6210.83	--		1.99	8	<1	3	NA	NA	4	18	<2	0.09	NA
R3	N	4/30/2003	4.98	6210.98	--		NM	13	<1	11	NA	NA	21	8	8	0.18	NA
R4	N	10/1/2003	5.16	6210.8	--		0	5	<1	<1	NA	NA	4	8	<5	0.048	NA
R5	N	5/20/2004	4.79	6211.17	--		0	4.5	<1	7.5	6.6	<1	NA	2.4	<5	0.091	NA
R6	N	10/4/2004	5.55	6210.41	--		1.35	3.6	<1	<1	2.7	<1	NA	2.9	<5	0.053	NA
R7	N	5/14/2005	4.43	6211.53	--		0	<1	<1	10	11	<1	NA	<1	5.5	0.23	NA
R8	N	10/5/2005	5.10	6210.86	--		0	<1	<1	<1	<2	<1	NA	1.5	<5	0.041	NA
R9	N	5/7/2006	4.73	6211.23	--		1.472	<1	<1	22	4	<1	NA	<1	<5	0.22	NA
R10	N	9/26/2006	4.86	6211.1	--		2.14	<1	<1	<1	<2	<1	NA	1.2	<5	0.023	NA
R11	N	5/22/2007	5.28	6210.68	--		1	<1	<1	1.7	<2	<1	NA	<1	<5	0.082	NA
R12	N	10/5/2007	5.34	6210.62	--		3.17	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA
R13	N	5/15/2008	4.81	6211.15	--		1.02	<1	<1	2.9	NA	NA	<10	<1	<20	<0.5	<0.5
R14	N	10/2/2008	5.04	6210.92	--		NM	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R15	N	5/14/2009	NM	NM	--		1.29	<1	<1	2.4	NA	NA	<3	<1	<20	<0.5	<0.53
R16	N	9/24/2009	4.75	6211.21	--	Slight hydrocarbon odor	2.29	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R17	N	5/20/2010	4.66	6211.3	--	Purged dry at 0.25 gallons	2.77	<1	<1	1.5	NA	NA	<3	<1	<20	<0.5	<0.5
R18	N	10/15/2010	5.89	6210.07	--		4.58	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R19	N	7/13/2011	5.22	6210.74	--		1.47	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R20	N	8/7/2012	5.57	6210.39	--		1.66	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.51
R21	N	8/1/2013	5.43	6210.53	--	Purged dry at 2.5 gallons	0.9	<1	<1	<1	NA	NA	<3	<1	<20	0.791	<0.5
R22	N	8/12/2014	5.35	6210.61	--		1.31	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R24	N	10/6/2015	4.71	6211.25	--		0.8	<0.06	<0.17	<0.18	NA	NA	<0.42	<0.06	<0.5	<0.25	<0.25
MW-020																	
BL	N	9/12/2001	5.03	6212.12	--		5.52	100	<5	<5	<5	<5	NA	<5	<5	0.17	<1
R5	N	5/20/2004	5.20	6211.95	--		0	160	160	20	140	100	NA	<1	<5	1.2	0.55
R6	N	10/4/2004	4.48	6212.67	--		0	28	16	2.2	8.5	4.6	NA	<1	<5	0.15	<0.5
R6	FD	10/4/2004	4.48	6212.67	--		NM	23	11	1.4	4.4	2.5	NA	<1	<5	0.12	<0.5
R7	N	5/14/2005	3.62	6213.53	--		0	180	<1	<1	<2	<1	NA	<1	<5	0.76	0.52
R8	N	10/5/2005	4.02	6213.13	--		0	73	27	5	5.3	2.6	NA	<1	<5	0.32	<0.5
R9	N	5/7/2006	4.32	6212.83	--		1.048	1600	610	96	180	140	NA	<1	17	3.7	1.2
R10	N	9/26/2006	4.30	6212.85	--		2.31	100	14	3.2	5.5	<1	NA	<1	5.5	0.35	<0.5
R11	N	5/22/2007	4.12	6213.03	--		0.36	290	73	16	59	30	NA	<1	12	1	<0.5
R11	FD	5/22/2007	4.12	6213.03	--		NM	210	47	3.1	59	34	NA	<1	8	0.95	<0.5
R12	N	10/4/2007	4.98	6212.17	--		0.93	15	5.6	1.5	9.4	3.3	NA	<1	<5	0.14	<0.5
R13	N	5/15/2008	4.73	6212.42	--		1.17	838	366	20.7	NA	NA	510	<10	<200	5.59	0.52

Table 7-1: Teton Texaco/Cache Chevron Sampling Data - BTEXMN & Total Petroleum Hydrocarbons

			Groundwater Measurement Data				Field Parameter Data	Analytical Results & Action Levels									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Dissolved Oxygen (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Total Xylene (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)
								5	1000	700	NL	NL	10000	40	1300	7.3	1.1
Teton Texaco/Cache Chevron																	
MW-020																	
R14	N	10/1/2008	5.09	6212.06	--		0.96	27.8	2.3	<1	NA	NA	46.6	<1	<20	0.783	<0.5
R15	N	5/13/2009	NM	NM	--		1.7	830	193	173	NA	NA	754	<1	63.1	3.89	0.7
R16	N	9/25/2009	5.16	6211.99	--		1.41	100	14.9	17.2	NA	NA	43	<1	31.4	0.82	<0.5
R17	N	5/12/2010	5.19	6211.96	--		1.73	70.1	28.9	22	NA	NA	69.1	<1	<20	0.887	<0.5
R18	N	10/15/2010	6.05	6211.1	--		2.46	43.3	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R19	N	7/12/2011	5.25	6211.9	--		3.31	43.8	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.51
R19	FD	7/12/2011	5.25	6211.9	--		3.31	37.9	1.3	1.5	NA	NA	<3	<1	<20	<0.5	<0.51
R20	N	8/6/2012	5.99	6211.16	--		3.18	190	1	<1	NA	NA	6.1	<1	<20	0.854	<0.51
R21	N	8/1/2013	6.04	6211.11	--		1.37	45.9	1.9	2.1	NA	NA	9.4	<1	<20	<0.5	<0.5
R22	N	8/12/2014	6.05	6211.1	--		1.65	30	8.3	1.4	NA	NA	36.2	<1	<20	<0.5	<0.5
R24	N	10/6/2015	5.56	6211.59	--	Hydrocarbon odor	2.29	29.8	6.2	1.1	NA	NA	28.6	<0.06	<0.5	<0.25	<0.25
R26	N	10/21/2016	5.15	6212	--	Slight hydrocarbon odor	1.73	15	<5	<5	NA	NA	14	<2	<5	<0.5	<0.5
MW-021																	
BL	N	9/12/2001	5.36	6210.4	--		0	520	12	43	520	<5	NA	<5	50	1.9	1
R1	N	5/6/2002	NM	NM	--		NM	310	8	27	NA	NA	320	<1	36	1.6	<1
R1	N	5/6/2002	4.54	6211.22	--		NM	310	8	27	NA	NA	320	<1	36	1.6	<1
R1	FD	5/6/2002	NM	NM	--		NM	310	8	30	NA	NA	320	<1	35	1.4	<1
R1	FD	5/6/2002	4.54	6211.22	--		NM	310	8	30	NA	NA	320	<1	35	1.4	<1
R2	N	11/5/2002	5.18	6210.58	--		0.4	280	6	24	NA	NA	280	<1	32	1.8	0.9
R3	N	5/1/2003	5.15	6210.61	--		NM	170	6	36	NA	NA	280	<1	31	1.5	0.7
R3	FD	5/1/2003	5.15	6210.61	--		NM	180	6	36	NA	NA	280	<1	33	1.5	0.7
R4	N	10/1/2003	5.39	6210.37	--		0	180	5	22	NA	NA	240	<1	19	1.1	0.8
R5	N	5/20/2004	4.84	6210.92	--		0	130	3.5	22	270	2.2	NA	<1	20	1.2	0.8
R6	N	10/4/2004	5.06	6210.7	--		0.58	180	4.4	22	310	2.4	NA	<1	22	1.3	0.67
R7	N	5/14/2005	4.01	6211.75	--		0	120	2.6	12	210	1.1	NA	<1	10	0.84	<0.5
R8	N	10/5/2005	4.57	6211.19	--		0	110	2.5	12	170	<1	NA	<1	7.6	0.81	<0.5
R9	N	5/7/2006	4.45	6211.31	--		0.696	79	3.2	7	160	<1	NA	<1	<5	0.76	<0.5
R10	N	9/27/2006	NM	NM	--		1.04	74	4.5	8.7	160	2.8	NA	<1	11	0.76	<0.5
R10	N	9/27/2006	4.57	6211.19	--		1.04	74	4.5	8.7	160	2.8	NA	<1	11	0.76	<0.5
R10	FD	9/27/2006	NM	NM	--		NM	69	2.2	7.4	140	<1	NA	<1	8	0.69	<0.5
R10	FD	9/27/2006	4.57	6211.19	--		NM	69	2.2	7.4	140	<1	NA	<1	8	0.69	<0.5
R11	N	5/23/2007	4.96	6210.8	--		0.04	68	1.8	6.2	180	<1	NA	<1	<5	1.1	<0.5
R12	N	10/4/2007	5.07	6210.69	--		1.69	65	2	11	190	<1	NA	<1	7.3	0.76	<0.5
R13	N	5/15/2008	4.70	6211.06	--		0.92	41	1.5	9.3	NA	NA	178	<1	<20	1.66	<0.5
R14	N	10/1/2008	4.96	6210.8	--		1.19	31.5	1.5	6.5	NA	NA	207	<1	<20	1.44	<0.5
R15	N	5/13/2009	3.73	6212.03	--		3.53	25.2	1.5	8.6	NA	NA	154	<1	<20	1.27	0.67
R16	N	9/24/2009	4.67	6211.09	--	Hydrocarbon odor	1.41	35	2.1	12.1	NA	NA	178	<1	<20	2.8	<0.5

Table 7-1: Teton Texaco/Cache Chevron Sampling Data - BTEXMN & Total Petroleum Hydrocarbons

			Groundwater Measurement Data				Field Parameter Data	Analytical Results & Action Levels										
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Dissolved Oxygen (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Total Xylene (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	
								5	1000	700	NL	NL	10000	40	1300	7.3	1.1	
Teton Texaco/Cache Chevron																		
MW-021																		
	R17	N	5/12/2010	4.53	6211.23	--		2.45	21.7	1.6	12.8	NA	NA	138	<1	<20	1.7	0.72
	R18	N	10/15/2010	6.22	6209.54	--		3.25	15.5	1.9	11.5	NA	NA	178	<1	<20	1.66	0.67
	R19	N	7/12/2011	5.05	6210.71	--		1.28	6.8	1.2	13.8	NA	NA	205	<1	<20	1.57	0.63
	R20	N	8/6/2012	5.62	6210.14	--		1.83	16.5	<1	9.3	NA	NA	205	<1	<20	1.69	<0.5
	R21	N	8/1/2013	5.42	6210.34	--		0.95	23.8	<1	15.6	NA	NA	111	<1	<20	1.51	0.92
	R22	N	8/11/2014	5.38	6210.38	--		0.77	72.1	1.4	39.1	NA	NA	67.1	<1	23.1	1.6	1.4
	R24	N	10/6/2015	5.35	6210.41	--	Slight hydrocarbon odor	1.45	84.7	<0.17	7.9	NA	NA	9.2	<0.06	<0.5	1.6	0.53
	R26	N	10/21/2016	4.89	6210.87	--	Slight hydrocarbon odor	1.75	<2	<5	<5	NA	NA	<5	<2	<5	1.3	0.6
MW-022																		
	BL	N	9/12/2001	5.95	6209.8	--		0	4700	110	780	4500	81	NA	<50	140	14	9
	R1	N	5/6/2002	4.80	6210.95	--		NM	3700	95	520	NA	NA	2700	<10	110	7.8	2
	R2	N	11/5/2002	5.82	6209.93	--		0	4900	110	750	NA	NA	6500	<1	160	9.6	2.7
	R3	N	5/1/2003	4.90	6210.85	--		NM	3800	110	520	NA	NA	3900	<1	120	12	2.2
	R4	N	10/1/2003	4.78	6210.97	--		0	4300	150	530	NA	NA	4500	<1	130	13	2.8
	R5	N	5/20/2004	4.31	6211.44	--		0	4000	140	570	4000	74	NA	<20	120	16	1.9
	R6	N	10/4/2004	3.93	6211.82	--	No Sample Taken, Well Broken, Now MW-022a	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-022A																		
	R7	N	7/14/2005	4.12	6211.73	--	Formerly MW-022	NM	438.1	30.9	202.5	783.8	127.4	NA	<1	70.5	2.6373	1.3
	R8	N	10/5/2005	3.64	6212.21	--	Formerly MW-022	0	340	22	140	550	45	NA	<5	59	1.9	0.77
	R9	N	5/9/2006	3.56	6212.29	--	Formerly MW-022	2.096	670	130	410	1400	110	NA	<5	85	4.4	1.8
	R10	N	9/26/2006	4.00	6211.85	--	Formerly MW-022. Purged dry after 2 gallons	1.06	310	16	190	590	7.2	NA	<1	84	2.3	0.51
	R11	N	5/22/2007	3.59	6212.26	--	Formerly MW-022. Purged dry after 2 gallons	0.66	530	87	430	1400	110	NA	<5	96	3.8	1.8
	R12	N	10/3/2007	4.19	6211.66	--		2.71	510	31	360	950	21	NA	<5	110	2.9	1.5
	R13	N	5/15/2008	4.21	6211.64	--		0.67	316	40.2	458	NA	NA	1190	<10	<200	8.17	1.2
	R14	N	10/1/2008	5.10	6210.75	--		1	351	24.2	276	NA	NA	702	<5	104	3.08	1.2
	R15	N	5/13/2009	4.32	6211.53	--	Hydrocarbon odor	2.05	414	39.2	499	NA	NA	1150	<10	<200	6.58	2.3
	R16	N	9/24/2009	5.33	6210.52	--	Hydrocarbon odor, sheen. Purged dry at 2 gallons	1.52	419	23.8	265	NA	NA	621	<5	<100	5.67	1.1
	R17	N	5/12/2010	5.65	6210.2	--	Purged dry at 1.75 gallons	2.72	171	12.9	131	NA	NA	343	<5	<100	2.86	2
	R18	N	10/15/2010	5.70	6210.15	--	Purged dry at 1.5 gallons	2.76	154	9.7	124	NA	NA	284	<1	56.6	2.42	1.3
	R19	N	7/12/2011	6.02	6209.83	--		3.41	1550	32.7	396	NA	NA	1870	<2	145	10.2	3.8
	R20	N	8/6/2012	6.59	6209.26	--		1.83	1590	<10	254	NA	NA	1290	<10	<200	10.8	3.7
	R21	N	8/1/2013	NM	NM	--	Not sampled, well destroyed during construction/excavation	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-022R																		
	R23	N	5/7/2015	5.79	6210.86	--	Hydrocarbon odor	0.86	2840	31	259	NA	NA	679	<1	78	7.25	3.5
	R24	N	10/6/2015	5.79	6210.86	--	Strong hydrocarbon odor	2.35	2770	42.2	395	NA	NA	761	<0.6	<5	16.4	4.6
	R26	N	10/21/2016	6.43	6210.22	--	Hydrocarbon odor	1.95	210	<25	<25	NA	NA	<25	<10	<25	1.9	0.81

Table 7-1: Teton Texaco/Cache Chevron Sampling Data - BTEXMN & Total Petroleum Hydrocarbons

			Groundwater Measurement Data				Field Parameter Data	Analytical Results & Action Levels									
Event ^a Code	Sample ^b Code	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Dissolved Oxygen (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Total Xylene (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)
								5	1000	700	NL	NL	10000	40	1300	7.3	1.1
Teton Texaco/Cache Chevron																	
MW-023																	
BL	N	9/12/2001	5.00	6209.96	--		0	<5	<5	<5	<5	<5	NA	<5	<5	0.036	NA
BL	FD	9/12/2001	5.00	6209.96	--		NM	<5	<5	<5	<5	<5	NA	<5	<5	0.035	NA
R1	N	5/6/2002	4.42	6210.54	--		NM	130	<1	<1	NA	NA	<3	<1	<2	0.11	NA
R2	N	11/5/2002	5.04	6209.92	--		0	23	<1	<1	NA	NA	<3	<1	<2	0.1	NA
R3	N	5/1/2003	5.02	6209.94	--		NM	67	1	<1	NA	NA	10	<1	<5	0.13	NA
R4	N	10/1/2003	5.24	6209.72	--		0	220	2	<1	NA	NA	4	<1	<5	0.3	NA
R4	FD	10/1/2003	5.24	6209.72	--		NM	210	2	3	NA	NA	4	<1	<5	0.31	NA
R5	N	5/20/2004	4.81	6210.15	--		0	530	1	1.3	6	<1	NA	<1	<5	0.63	NA
R6	N	10/4/2004	4.95	6210.01	--		0.56	160	1.3	<1	3	<1	NA	<1	<5	0.25	NA
R7	N	5/14/2005	4.01	6210.95	--		0	690	1.4	<1	2.6	<1	NA	<1	<5	0.82	NA
R8	N	10/5/2005	4.65	6210.31	--		0	440	1.3	2.8	7.2	<1	NA	<1	<5	0.56	NA
R8	FD	10/5/2005	4.65	6210.31	--		NM	440	1.2	2	3.3	<1	NA	<1	<5	0.56	NA
R9	N	5/7/2006	4.30	6210.66	--		0.68	320	<1	<1	<2	<1	NA	<1	<5	0.52	NA
R10	N	9/26/2006	5.45	6209.51	--		1.51	310	<1	<1	<2	<1	NA	<1	<5	0.42	NA
R11	N	5/23/2007	4.73	6210.23	--		0	34	<1	1	2.2	<1	NA	<1	<5	0.15	NA
R12	N	10/3/2007	4.82	6210.14	--		1.8	10	<1	<1	<2	<1	NA	<1	<5	0.12	NA
R13	N	5/15/2008	4.57	6210.39	--		1.21	30.7	<1	<1	NA	NA	<10	<1	<20	<0.5	<0.5
R13	FD	5/15/2008	4.57	6210.39	--		1.21	33.5	<1	<1	NA	NA	<10	<1	<20	<0.5	<0.53
R14	N	10/1/2008	4.88	6210.08	--		1.82	353	<5	<5	NA	NA	<15	<5	<100	0.87	<0.5
R15	N	5/13/2009	3.37	6211.59	--		2.85	154	1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R16	N	9/25/2009	4.03	6210.93	--		1.07	44.1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R16	FD	9/25/2009	4.03	6210.93	--		1.07	44.2	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R17	N	5/12/2010	4.04	6210.92	--		1.77	1.3	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R18	N	10/15/2010	6.50	6208.46	--		3.57	23.5	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R18	FD	10/15/2010	6.50	6208.46	--		3.57	19.5	<1	<1	NA	NA	<3	<1	<20	<0.5	NA
R19	N	7/12/2011	5.09	6209.87	--		1.12	10.8	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.52
R20	N	8/6/2012	5.63	6209.33	--		3.25	19.5	<1	<1	NA	NA	11	<1	<20	<0.5	<0.5
R21	N	8/1/2013	5.79	6209.17	--		3.51	85.7	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R22	N	8/11/2014	5.63	6209.33	--		1.04	23.2	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R24	N	10/6/2015	5.32	6209.64	--		3.08	<0.06	<0.17	<0.18	NA	NA	<0.42	<0.06	<0.5	<0.25	<0.26
R26	N	10/21/2016	4.63	6210.33	--	Slight hydrocarbon odor	1.64	<2	<5	<5	NA	NA	<5	<2	<5	<0.5	<0.5
MW-025																	
BL	N	9/12/2001	5.34	6211.06	--		2.22	3400	4200	980	6100	2400	NA	<50	320	21	NA
R1	N	5/6/2002	3.98	6212.42	--		NM	1300	2200	610	NA	NA	4800	<10	200	11	NA
R2	N	11/5/2002	5.02	6211.38	--		1.56	3000	3500	760	NA	NA	6700	<50	290	11	NA
R2	FD	11/5/2002	5.02	6211.38	--		NM	1500	1800	400	NA	NA	3700	<50	410	11	NA
R3	N	5/1/2003	4.52	6211.88	--		NM	1500	2600	700	NA	NA	5700	<10	120	15	NA

Table 7-1: Teton Texaco/Cache Chevron Sampling Data - BTEXMN & Total Petroleum Hydrocarbons

			Groundwater Measurement Data				Field Parameter Data	Analytical Results & Action Levels									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Dissolved Oxygen (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Total Xylene (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)
								5	1000	700	NL	NL	10000	40	1300	7.3	1.1
Teton Texaco/Cache Chevron																	
MW-025																	
R4	N	10/1/2003	4.58	6211.82	--		0.49	3200	3300	680	NA	NA	5900	<20	190	16	NA
R5	N	5/20/2004	3.99	6212.41	--		NM	2300	3400	980	5900	2200	NA	<20	190	22	2.2
R6	N	10/4/2004	4.13	6212.27	--		1.03	1900	2400	820	5000	1900	NA	<20	130	19	3.1
R7	N	5/14/2005	3.20	6213.2	--		1.91	2000	2200	730	4300	1500	NA	<20	130	17	2.4
R8	N	10/5/2005	3.65	6212.75	--		0	2400	2300	700	3900	1300	NA	<20	150	16	1.9
R9	N	5/9/2006	3.68	6212.72	--		0.76	880	1400	610	3800	1300	NA	21	180	13	1.8
R10	N	9/27/2006	3.90	6212.5	--		0.99	2000	1900	620	3700	1300	NA	<10	190	14	1.4
R11	N	5/22/2007	3.47	6212.93	--		0	330	580	370	2000	700	NA	<5	110	6.9	1.6
R12	N	10/4/2007	4.32	6212.08	--		1.86	620	980	500	2900	980	NA	<10	160	10	1.9
R13	N	5/15/2008	4.08	6212.32	--		0.66	322	746	380	NA	NA	3190	<10	<200	21	2
R14	N	10/1/2008	4.80	6211.6	--	Hydrocarbon odor	0.44	1500	1450	402	NA	NA	3170	<10	<200	15.3	2.3
R15	N	5/13/2009	3.83	6212.57	--		2.68	253	363	246	NA	NA	2280	<10	<200	11.2	2.1
R16	N	9/25/2009	4.92	6211.48	--	Strong hydrocarbon odor	1	280	294	235	NA	NA	1590	<5	<100	10.5	1.3
R17	N	5/12/2010	5.01	6211.39	--		2.51	359	422	276	NA	NA	1820	<5	<100	14.9	4.4
R18	N	10/15/2010	5.91	6210.49	--	Slight hydrocarbon odor	2.1	1550	471	203	NA	NA	1300	<5	<100	10.5	2.5
R19	N	7/10/2011	5.12	6211.28	--	Slight hydrocarbon odor	2.3	362	189	171	NA	NA	1070	<10	<200	7.05	0.93
R20	N	8/6/2012	5.85	6210.55	--	Slight hydrocarbon odor	1.63	1060	492	280	NA	NA	1870	<10	<200	12.1	1.4
R21	N	8/1/2013	5.98	6210.42	--	Degraded fuel odor	0.95	2910	911	377	NA	NA	2620	<10	<200	19.4	4.5
R22	N	8/12/2014	6.06	6210.34	--		0.53	84.4	1.6	6.8	NA	NA	5.4	<1	<20	<0.5	<0.5
R24	N	10/6/2015	5.28	6211.12	--	Hydrocarbon odor	0.71	1570	54.8	172	NA	NA	513	<0.06	52	9.32	0.86
R26	N	10/21/2016	5.44	6210.96	--	Hydrocarbon odor	1.92	2300	<50	620	NA	NA	1400	<20	180	20	2.9
MW-029																	
R20	N	8/6/2012	6.84	6206.9	--		2.6	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.51
R21	N	8/1/2013	7.15	6206.59	--		1.51	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R22	N	8/12/2014	7.54	6206.2	--		1.75	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R24	N	10/6/2015	6.42	6207.32	--		1.34	<0.06	<0.17	<0.18	NA	NA	<0.42	<0.06	<0.5	<0.25	<0.26
R26	N	10/21/2016	7.13	6206.61	--		2.56	<2	<5	<5	NA	NA	<5	<2	<5	<0.5	<0.5
MW-030																	
R20	N	8/7/2012	6.08	6207.11	--		1.27	<1	<1	2.7	NA	NA	18.9	<1	<20	<0.5	<0.51
R21	N	8/1/2013	6.32	6206.87	--		1.05	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
MW-034																	
R20	N	8/6/2012	4.45	6208.57	--		1.21	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R21	N	8/1/2013	4.69	6208.33	--		1.18	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R22	N	8/12/2014	5.10	6207.92	--		1.7	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R24	N	10/6/2015	5.17	6207.85	--		3.52	<0.06	<0.17	<0.18	NA	NA	<0.42	<0.06	<0.5	<0.25	<0.25
R26	N	10/21/2016	5.63	6207.39	--		1.96	<2	<5	<5	NA	NA	<5	<2	<5	<0.5	<0.5
MW-152																	

Table 7-1: Teton Texaco/Cache Chevron Sampling Data - BTEXMN & Total Petroleum Hydrocarbons

			Groundwater Measurement Data				Field Parameter Data	Analytical Results & Action Levels									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Dissolved Oxygen (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Total Xylene (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)
								5	1000	700	NL	NL	10000	40	1300	7.3	1.1
Teton Texaco/Cache Chevron																	
MW-152																	
R13	N	5/15/2008	2.91	6209.27	--		0.5	<1	<1	<1	NA	NA	<10	<1	<20	<0.5	<0.5
R20	N	8/9/2012	4.84	6207.34	--		1.66	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.53
R21	N	8/1/2013	4.65	6207.53	--		1.38	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R21	FD	8/1/2013	4.65	6207.53	--		1.38	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R22	N	8/12/2014	3.99	6208.19	--		0.99	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.49
R24	N	10/6/2015	3.85	6208.33	--		1.33	<0.06	<0.17	<0.18	NA	NA	<0.42	<0.06	<0.5	<0.25	<0.25
MW-300																	
BL	N	9/12/2001	6.36	6209.99	--		0	1800	60	210	2400	<50	NA	<50	75	4.2	2
R1	N	5/6/2002	5.26	6211.09	--		NM	850	15	61	NA	NA	480	<1	56	1.4	<1
R2	N	11/5/2002	6.30	6210.05	--		0	840	13	46	NA	NA	950	<1	59	0.18	0.8
R3	N	5/1/2003	5.36	6210.99	--		NM	300	8	38	NA	NA	200	<1	17	1	0.6
R4	N	10/1/2003	5.20	6211.15	0.01		0	110	2	1	NA	NA	30	<1	9	0.4	<0.5
R5	N	5/20/2004	4.65	6211.7	--		0	27	<1	<1	<2	<1	NA	<1	<5	0.26	<0.5
R6	N	10/4/2004	4.24	6212.11	--		0	13	<1	<1	<2	<1	NA	<1	<5	0.22	<0.5
R7	N	5/14/2005	3.39	6212.96	--		0	6	<1	1.8	<2	<1	NA	<1	<5	0.12	<0.5
R8	N	10/5/2005	3.75	6212.6	--		0	<1	<1	<1	<2	<1	NA	<1	<5	0.1	<0.5
R9	N	5/8/2006	3.75	6212.6	--		0.968	3.1	<1	3	<2	<1	NA	<1	<5	0.25	<0.5
R10	N	9/26/2006	4.17	6212.18	--		1.32	<1	<1	<1	<2	<1	NA	<1	<5	0.19	<0.5
R11	N	5/23/2007	3.78	6212.57	--		0	1.9	<1	<1	<2	<1	NA	<1	<5	0.26	<0.5
R12	N	10/4/2007	4.25	6212.1	--		1.96	<1	<1	<1	<2	<1	NA	<1	<5	0.18	<0.5
R13	N	5/15/2008	4.00	6212.35	--		1.49	12	<1	<1	NA	NA	<10	<1	<20	<0.5	<0.5
R14	N	10/1/2008	5.30	6211.05	--		1.46	50.8	<1	3.1	NA	NA	4.7	<1	<20	<0.5	<0.5
R15	N	5/13/2009	NM	NM	--		2.85	205	7.4	18.1	NA	NA	51.6	<5	<100	<2.5	<0.5
R16	N	9/24/2009	5.31	6211.04	--		1.03	528	12.7	79.1	NA	NA	93.5	<1	28.3	1.42	<0.5
R17	N	5/12/2010	5.73	6210.62	--	Old fuel odor	2.19	148	2	<1	NA	NA	10.5	<1	<20	0.87	<0.53
R17	FD	5/12/2010	5.73	6210.62	--	Old fuel odor	2.19	148	1.9	<1	NA	NA	9.6	<1	<20	0.862	NA
R18	N	10/15/2010	6.50	6209.85	--		2.64	1310	34.7	172	NA	NA	465	<1	66.4	5.48	0.95
R19	N	7/12/2011	6.27	6210.08	--	Hydrocarbon odor	1.98	984	35.8	79	NA	NA	317	<5	<100	3.91	0.59
R20	N	8/6/2012	6.83	6209.52	--		1.66	1310	<10	129	NA	NA	506	<10	<200	6.21	0.66
R20	FD	8/6/2012	6.83	6209.52	--		1.66	1160	<10	112	NA	NA	417	<10	<200	5.97	NA
R21	N	8/1/2013	7.03	6209.32	--		1.34	1120	13	77.3	NA	NA	141	<1	96.1	2.72	1.6
R22	N	8/11/2014	7.16	6209.19	--		1.88	1250	20.7	112	NA	NA	232	<5	<100	5.05	1.4
R22	FD	8/11/2014	7.16	6209.19	--		1.88	1320	22	113	NA	NA	239	<5	<100	5.06	1.5
R24	N	10/6/2015	6.56	6209.79	--	Hydrocarbon odor	1.83	233	<1.7	<1.8	NA	NA	<4.2	<0.6	<5	<2.5	0.59
R26	N	10/21/2016	6.21	6210.14	--	Slight hydrocarbon odor	1.97	<2	<5	<5	NA	NA	<5	<2	<5	<0.5	<0.5
MW-301																	
BL	N	9/11/2001	5.24	6208.08	--		0	<5	<5	<5	<5	<5	NA	<5	<5	<0.02	NA

Table 7-1: Teton Texaco/Cache Chevron Sampling Data - BTEXMN & Total Petroleum Hydrocarbons

			Groundwater Measurement Data				Field Parameter Data	Analytical Results & Action Levels									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Dissolved Oxygen (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Total Xylene (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)
								5	1000	700	NL	NL	10000	40	1300	7.3	1.1
Teton Texaco/Cache Chevron																	
MW-301																	
R6	N	10/4/2004	5.05	6208.27	--		0.55	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	<0.5
R7	N	5/14/2005	4.59	6208.73	--		0	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	<0.5
R7	FD	5/14/2005	4.59	6208.73	--		NM	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	<0.5
R8	N	10/5/2005	4.79	6208.53	--		0	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	<0.5
R9	N	5/7/2006	5.04	6208.28	--		1.096	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	<0.5
R10	N	9/26/2006	4.85	6208.47	--		1.81	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	<0.5
R11	N	5/22/2007	5.02	6208.3	--		0	<1	<1	<1	<2	<1	NA	<1	<5	0.021	<0.5
R12	N	10/4/2007	5.17	6208.15	--		2.56	1.3	<1	<1	<2	<1	NA	<1	<5	0.03	<0.5
R13	N	5/15/2008	5.37	6207.95	--		2.08	<1	<1	<1	NA	NA	<10	<1	<20	<0.5	<0.5
R14	N	10/2/2008	5.49	6207.83	--		NM	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R15	N	5/14/2009	5.23	6208.09	--		0.87	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.52
R16	N	9/24/2009	5.38	6207.94	--		2.16	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R17	N	5/20/2010	5.29	6208.03	--	Purged dry at 2 gallons	2.14	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R17	FD	5/20/2010	5.29	6208.03	--	Purged dry at 2 gallons	2.14	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	NA
R19	N	7/13/2011	5.50	6207.82	--		1.81	2.4	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R20	N	8/6/2012	5.60	6207.72	--	Slight hydrocarbon odor	2.65	2.5	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R21	N	8/1/2013	5.32	6208	--	Purged dry at 2.25 gallons	0.78	2.6	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R22	N	8/12/2014	5.55	6207.77	--		0.77	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R24	N	10/7/2015	5.33	6207.99	--		2	4.3	<0.17	<0.18	NA	NA	<0.42	5.5	<0.5	<0.25	<0.25
R26	N	10/21/2016	4.96	6208.36	--		3.01	<2	<5	<5	NA	NA	<5	<2	<5	<0.5	<0.5
MW-375																	
BL	N	9/12/2001	5.34	NA	--	Well Not Surveyed	NM	<5	<5	<5	<5	<5	NA	<5	<5	<0.02	NA
R19	N	7/14/2011	5.70	NA	--		NM	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.51
R20	N	8/6/2012	NM	NM	--	No Sample Taken, Dry	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R21	N	8/1/2013	NM	NM	--	No Sample Taken, Dry	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R22	N	8/11/2014	NM	NM	--	No Sample Taken, Dry	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R24	N	10/6/2015	4.76	NA	--		0.91	<0.06	<0.17	<0.18	NA	NA	<0.42	<0.06	<0.5	<0.25	<0.25
MW-406																	
BL	N	9/11/2001	2.55	6214.03	--		0.37	<5	<5	<5	<5	<5	NA	<5	<5	<0.02	NA
BL	FD	9/11/2001	2.55	6214.03	--		NM	<5	<5	<5	<5	<5	NA	<5	<5	<0.02	NA
R1	N	5/7/2002	5.14	6211.44	--		1.44	<1	<1	<1	NA	NA	<3	<1	<2	<0.02	NA
R2	N	11/4/2002	5.55	6211.03	--		0.08	<1	<1	<1	NA	NA	<3	<1	<2	<0.02	NA
R3	N	4/30/2003	5.42	6211.16	--		NM	<1	<1	<1	NA	NA	<3	<1	<5	<0.02	NA
R4	N	10/1/2003	5.41	6211.17	--		0	<1	<1	<1	NA	NA	<3	<1	<5	0.021	NA
R5	N	5/20/2004	2.96	6213.62	--		3.5	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA
R6	N	10/4/2004	5.66	6210.92	--		1.95	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA
R7	N	5/14/2005	3.35	6213.23	--		10.9	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA

Table 7-1: Teton Texaco/Cache Chevron Sampling Data - BTEXMN & Total Petroleum Hydrocarbons

			Groundwater Measurement Data				Field Parameter Data	Analytical Results & Action Levels									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Dissolved Oxygen (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Total Xylene (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)
								5	1000	700	NL	NL	10000	40	1300	7.3	1.1
Teton Texaco/Cache Chevron																	
MW-406																	
R8	N	10/5/2005	5.95	6210.63	--		0.61	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA
R9	N	5/7/2006	NM	NM	--		2.16	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA
R9	N	5/7/2006	3.51	6213.07	--		2.16	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA
R9	FD	5/7/2006	NM	NM	--		NM	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA
R9	FD	5/7/2006	3.51	6213.07	--		NM	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA
R10	N	9/26/2006	5.25	6211.33	--		2.7	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA
R11	N	5/22/2007	5.87	6210.71	--		3.11	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA
R12	N	10/5/2007	5.79	6210.79	--		3.51	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA
R13	N	5/15/2008	5.24	6211.34	--		4.16	<1	<1	<1	NA	NA	<10	<1	<20	<0.5	<0.5
R13	FD	5/15/2008	5.24	6211.34	--		4.16	<1	<1	<1	NA	NA	<10	<1	<20	<0.5	<0.5
R14	N	10/2/2008	5.26	6211.32	--		NM	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R15	N	5/14/2009	5.03	6211.55	--		2.55	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R16	N	9/24/2009	9.21	6207.37	--		2.58	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R17	N	5/20/2010	5.69	6210.89	--	Purged dry at 1.5 gallons	6.25	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.53
R18	N	10/15/2010	6.61	6209.97	--	Purged dry at 2.5 gallons	4.2	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R19	N	7/13/2011	6.21	6210.37	--		1.87	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R20	N	8/6/2012	6.25	6210.33	--		3.92	<1	<1	<1	NA	NA	<3	3.8	<20	<0.5	<0.5
R21	N	8/1/2013	6.27	6210.31	--	Purged dry at 2 gallons	0.84	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R22	N	8/12/2014	5.93	6210.65	--		1.34	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R24	N	10/6/2015	5.39	6211.19	--		0.78	<0.06	<0.17	<0.18	NA	NA	<0.42	<0.06	<0.5	<0.25	<0.26
R24	FD	10/6/2015	5.39	6211.19	--		0.78	<0.06	<0.17	<0.18	NA	NA	<0.42	<0.06	<0.5	<0.25	<0.25
MW-407																	
BL	N	9/11/2001	5.67	6210.05	--		0.51	<5	<5	<5	<5	<5	NA	<5	<5	<0.02	NA
R1	N	5/7/2002	5.90	6209.82	--		0.8	21	<1	<1	NA	NA	4	<1	<2	0.031	NA
R1	FD	5/7/2002	5.90	6209.82	--		NM	12	<1	<1	NA	NA	<3	<1	<2	0.023	NA
R2	N	11/4/2002	6.47	6209.25	--		0	180	3	1	NA	NA	58	14	3	0.44	NA
R3	N	4/30/2003	6.45	6209.27	--		NM	180	5	2	NA	NA	120	17	6	0.58	NA
R4	N	10/1/2003	6.18	6209.54	--		0	170	5	2	NA	NA	80	27	5	0.49	NA
R5	N	5/20/2004	6.01	6209.71	--		0	300	2.3	2.3	69	<1	NA	48	<5	0.62	NA
R6	N	10/4/2004	6.79	6208.93	--		1.33	360	5.2	2.7	130	<2	NA	60	<10	0.75	NA
R6	FD	10/4/2004	6.79	6208.93	--		NM	390	5.4	2.9	130	<2	NA	60	<10	0.77	NA
R7	N	5/14/2005	5.50	6210.22	--		0	210	2.1	1.6	23	<1	NA	22	<5	0.32	NA
R8	N	10/5/2005	6.50	6209.22	--		0	200	4.2	3.4	100	<1	NA	35	9.3	0.59	NA
R9	N	5/7/2006	6.18	6209.54	--		1.296	23	<1	<1	<2	<1	NA	2.8	<5	0.032	NA
R10	N	9/26/2006	6.45	6209.27	--		2.76	130	<1	<1	7	<1	NA	22	<5	0.21	NA
R11	N	5/22/2007	6.43	6209.29	--		0.98	510	7.2	2.7	120	<1	NA	37	7	1	NA
R12	N	10/5/2007	6.64	6209.08	--		3.27	430	6.3	2.4	130	<1	NA	30	6.8	0.87	NA

Table 7-1: Teton Texaco/Cache Chevron Sampling Data - BTEXMN & Total Petroleum Hydrocarbons

			Groundwater Measurement Data				Field Parameter Data	Analytical Results & Action Levels									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Dissolved Oxygen (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Total Xylene (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)
								5	1000	700	NL	NL	10000	40	1300	7.3	1.1
Teton Texaco/Cache Chevron																	
MW-407																	
R12	FD	10/5/2007	6.64	6209.08	--		NM	440	6.3	2.4	130	<1	NA	30	7	0.86	NA
R13	N	5/15/2008	5.76	6209.96	--		2.41	56	<1	<1	NA	NA	<10	3.3	<20	<0.5	<0.5
R14	N	10/2/2008	3.00	6212.72	--		NM	24.9	<1	<1	NA	NA	<3	2.5	<20	<0.5	<0.5
R14	FD	10/2/2008	3.00	6212.72	--		NM	24.9	<1	<1	NA	NA	<3	2.4	<20	<0.5	<0.5
R15	N	5/14/2009	5.67	6210.05	--		1.39	57.8	<1	<1	NA	NA	<3	1.9	<20	<0.5	<0.5
R16	N	9/24/2009	6.81	6208.91	--	Slight odor	1.6	352	5.3	1.2	NA	NA	6.4	17	<20	<0.5	<0.5
R16	FD	9/24/2009	6.81	6208.91	--	Slight odor	1.6	332	5.3	1.3	NA	NA	10.9	16.6	<20	0.54	<0.5
R17	N	5/20/2010	6.29	6209.43	--	Purged dry at 1.75 gallons	1.54	184	4	1.4	NA	NA	84.5	3.9	<20	1.05	0.59
R18	N	10/15/2010	7.37	6208.35	--	Degraded fuel odor	3.4	177	2.7	1.7	NA	NA	42.1	8.1	<20	<0.5	<0.5
R19	N	7/13/2011	6.80	6208.92	--		1.6	180	3.4	1.7	NA	NA	66.9	4.4	<20	0.687	<0.49
R20	N	8/7/2012	6.86	6208.86	--	Slight hydrocarbon odor	1.97	221	7.3	3	NA	NA	317	8	<20	2.48	<0.51
R21	N	8/1/2013	6.79	6208.93	--	Purged dry at 2.5 gallons	1.39	80	<1	<1	NA	NA	3.7	3	<20	<0.5	<0.5
R22	N	8/12/2014	6.55	6209.17	--		0.44	129	1.9	1.4	NA	NA	127	<1	<20	1.06	0.68
R24	N	10/7/2015	6.24	6209.48	--		1.13	654	1.5	<0.18	NA	NA	74.7	8	<0.5	2.95	0.54
R26	N	10/21/2016	6.30	6209.42	--		4.65	<2	<5	<5	NA	NA	<5	<2	<5	<0.5	<0.5
MW-408																	
BL	N	9/12/2001	4.61	6209.83	--		0.1	7	<5	<5	<5	<5	NA	<5	<5	0.034	NA
R1	N	5/6/2002	4.44	6210	--		NM	5	<1	<1	NA	NA	<3	<1	<2	0.024	NA
R2	N	11/4/2002	4.82	6209.62	--		1.1	2	<1	<1	NA	NA	<3	<1	<2	0.037	NA
R3	N	4/30/2003	4.67	6209.77	--		NM	2	<1	<1	NA	NA	<3	<1	<5	0.031	NA
R4	N	10/1/2003	5.09	6209.35	--		0	<1	<1	<1	NA	NA	<3	<1	<5	<0.02	NA
R5	N	5/20/2004	4.15	6210.29	--		0.56	3.3	<1	<1	<2	<1	NA	<1	<5	<0.02	NA
R6	N	10/4/2004	5.05	6209.39	--		1.21	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA
R7	N	5/14/2005	3.88	6210.56	--		2.11	1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA
R8	N	10/5/2005	NM	NM	--	No Sample Taken, Well Not Accessible	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/7/2006	4.50	6209.94	--		1.472	<1	<1	<1	<2	<1	NA	<1	<5	0.061	NA
R10	N	9/26/2006	4.55	6209.89	--		3.46	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA
R11	N	5/23/2007	5.13	6209.31	--		1.13	<1	<1	<1	<2	<1	NA	<1	<5	0.025	NA
R12	N	10/5/2007	NM	NM	--	No Sample Taken, Well Destroyed	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-509																	
R2	N	11/5/2002	6.44	6209.12	--		0	<1	<1	<1	NA	NA	20	<1	<2	0.023	NA
R3	N	5/1/2003	6.11	6209.45	--		NM	<1	<1	<1	NA	NA	17	<1	<5	0.037	NA
R4	N	10/1/2003	5.86	6209.7	--		0	<1	<1	<1	NA	NA	11	<1	<5	<0.02	NA
R5	N	5/20/2004	5.62	6209.94	--		0	<1	<1	<1	2.3	<1	NA	<1	<5	<0.02	NA
R6	N	10/4/2004	5.21	6210.35	--		0	<1	<1	<1	2.2	<1	NA	<1	<5	0.044	NA
R7	N	5/14/2005	4.69	6210.87	--		0	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA
R8	N	10/5/2005	4.83	6210.74	--		0.21	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA

Table 7-1: Teton Texaco/Cache Chevron Sampling Data - BTEXMN & Total Petroleum Hydrocarbons

			Groundwater Measurement Data				Field Parameter Data	Analytical Results & Action Levels									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Dissolved Oxygen (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Total Xylene (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)
								5	1000	700	NL	NL	10000	40	1300	7.3	1.1
Teton Texaco/Cache Chevron																	
MW-509																	
R9	N	5/8/2006	NM	NM	--		0.6	<1	<1	<1	<2	<1	NA	<1	<5	0.023	NA
R9	N	5/8/2006	4.98	6210.58	--		0.6	<1	<1	<1	<2	<1	NA	<1	<5	0.023	NA
R9	FD	5/8/2006	NM	NM	--		NM	<1	<1	<1	<2	<1	NA	<1	<5	0.021	NA
R9	FD	5/8/2006	4.98	6210.58	--		NM	<1	<1	<1	<2	<1	NA	<1	<5	0.021	NA
R10	N	9/27/2006	5.05	6210.51	--		1.16	<1	<1	<1	<2	<1	NA	<1	<5	<0.02	NA
R11	N	5/23/2007	5.09	6210.47	--		0.56	<1	<1	<1	<2	<1	NA	<1	<5	0.066	NA
R12	N	10/3/2007	5.34	6210.22	--		1.04	<1	<1	<1	<2	<1	NA	<1	<5	0.024	NA
R13	N	5/15/2008	5.49	6210.07	--		1.17	<1	<1	<1	NA	NA	<10	<1	<20	<0.5	<0.62
R14	N	10/1/2008	6.03	6209.53	--		1.18	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R15	N	5/13/2009	5.47	6210.09	--		0.98	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R16	N	9/25/2009	6.30	6209.26	--		0.78	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R17	N	5/12/2010	5.75	6209.81	--		1.41	1.4	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.53
R18	N	10/15/2010	6.52	6209.04	--		3.37	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R18	FD	10/15/2010	6.52	6209.04	--		3.37	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	NA
R19	N	7/12/2011	6.42	6209.14	--		0.82	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.53
R20	N	8/6/2012	6.77	6208.79	--		1.34	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R21	N	8/1/2013	6.97	6208.59	--		0.9	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R22	N	8/12/2014	7.11	6208.45	--		1.12	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R22	FD	8/12/2014	7.11	6208.45	--		1.12	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R24	N	10/6/2015	6.32	6209.24	--		0.95	<0.06	<0.17	<0.18	NA	NA	<0.42	<0.06	<0.5	<0.25	<0.26
MW-TT-1																	
R2	N	11/5/2002	5.88	6210.09	--		5.55	1	1	<1	NA	NA	<3	<1	<2	0.21	NA
R3	N	5/1/2003	5.57	6210.4	--		NM	1	1	<1	NA	NA	6	<1	<5	0.14	NA
R4	N	10/1/2003	5.85	6210.12	0.05		0	<1	<1	<1	NA	NA	<3	<1	<5	0.1	NA
R5	N	5/20/2004	5.24	6210.73	--		0	<1	<1	<1	<2	<1	NA	<1	<5	0.046	NA
R5	FD	5/20/2004	5.24	6210.73	--		NM	<1	<1	<1	<2	<1	NA	<1	<5	0.052	NA
R6	N	10/4/2004	5.15	6210.82	--		2.6	<1	<1	<1	<2	<1	NA	<1	<5	0.047	<0.5
R7	N	5/14/2005	4.01	6211.96	--		0.97	<1	<1	<1	<2	<1	NA	<1	<5	0.032	NA
R8	N	10/5/2005	4.65	6211.32	--		0	<1	<1	<1	<2	<1	NA	<1	<5	0.049	NA
R9	N	5/9/2006	4.22	6211.75	--		1.192	<1	<1	<1	<2	<1	NA	<1	<5	0.062	3.9
R10	N	9/26/2006	4.79	6211.18	--		1.81	<1	<1	<1	<2	<1	NA	<1	<5	0.049	NA
R11	N	5/23/2007	4.67	6211.3	--		0.57	4.7	<1	<1	<2	<1	NA	<1	<5	0.14	NA
R12	N	10/3/2007	5.20	6210.77	--		2.08	54	<1	<1	<2	<1	NA	<1	<5	0.11	NA
R13	N	5/15/2008	4.90	6211.07	--		2.03	8.2	<1	<1	NA	NA	<10	<1	<20	<0.5	<0.5
R14	N	10/1/2008	5.57	6210.4	--		1.36	9.7	37.9	<1	NA	NA	<3	<1	<20	<0.5	1.9
R15	N	5/13/2009	NM	NM	--		2.38	5.5	18.3	<1	NA	NA	<3	<1	<20	<0.5	<0.5
R16	N	9/24/2009	4.52	6211.45	--	Hydrocarbon odor	1.36	5.5	6.6	<1	NA	NA	<3	<1	<20	<0.5	<0.5

Table 7-1: Teton Texaco/Cache Chevron Sampling Data - BTEXMN & Total Petroleum Hydrocarbons

			Groundwater Measurement Data				Field Parameter Data	Analytical Results & Action Levels										
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Dissolved Oxygen (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Total Xylene (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)	
								5	1000	700	NL	NL	10000	40	1300	7.3	1.1	
Teton Texaco/Cache Chevron																		
MW-TT-1																		
	R17	N	5/12/2010	4.50	6211.47	--		1.94	3.2	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.52
	R18	N	10/15/2010	6.61	6209.36	--		3.74	3.6	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
	R19	N	7/12/2011	5.49	6210.48	--		1.48	1.3	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
	R20	N	8/6/2012	6.06	6209.91	--		2.73	3.3	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
	R21	N	8/1/2013	6.49	6209.48	--	Purged dry at 2 gallons	1.74	1.3	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
	R22	N	8/11/2014	6.36	6209.61	--		1.39	<1	<1	<1	NA	NA	<3	<1	<20	<0.5	<0.5
	R24	N	10/6/2015	5.98	6209.99	--	Slight hydrocarbon odor	1.55	<0.06	<0.17	<0.18	NA	NA	<0.42	<0.06	<0.5	<0.25	<0.25
	R26	N	10/21/2016	5.49	6210.48	--	Slight hydrocarbon odor	2.2	<2	<5	<5	NA	NA	<5	<2	<5	<0.5	0.5
MW-TT-2																		
	BL	N	9/12/2001	5.09	6211.14	--		0	5300	1700	1000	6000	1100	NA	<50	220	17	NA
	R2	N	11/5/2002	5.32	6210.91	--		0	5200	1400	870	NA	NA	7100	<50	450	11	NA
	R3	N	5/1/2003	5.66	6210.57	--		NM	4000	660	460	NA	NA	2800	<10	110	11	NA
	R4	N	8/19/2003	5.04	6211.19	--	No Sample Taken	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R4	N	9/18/2003	4.80	6211.43	--	No Sample Taken	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R4	N	9/25/2003	4.69	6211.54	--	No Sample Taken	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R4	N	10/21/2003	5.10	6211.13	--		0	2000	1200	420	NA	NA	3500	<10	71	10	NA
	R5	N	5/20/2004	4.25	6211.98	--		0	4300	1500	880	4100	580	NA	<10	82	16	2
	R6	N	10/4/2004	3.93	6212.3	--		0	3800	550	860	4100	710	NA	<50	<250	14	2.6
	R7	N	5/14/2005	3.06	6213.17	--		0.32	450	120	79	370	84	NA	<10	<50	1.6	0.61
	R8	N	10/5/2005	3.47	6212.76	--		0	3100	760	700	3700	570	NA	<5	140	11	1.7
	R9	N	5/7/2006	NM	NM	--		0.824	1000	270	220	1300	270	NA	<5	62	5	1.1
	R9	N	5/7/2006	3.56	6212.67	--		0.824	1000	270	220	1300	270	NA	<5	62	5	1.1
	R9	FD	5/7/2006	NM	NM	--		NM	1100	270	230	1300	280	NA	<5	62	5	1
	R9	FD	5/7/2006	3.56	6212.67	--		NM	1100	270	230	1300	280	NA	<5	62	5	1
	R10	N	9/28/2006	3.88	6212.35	--		2.33	2700	660	840	3800	520	NA	<5	180	12	1.6
	R11	N	5/22/2007	3.27	6212.96	--		1.15	270	72	66	300	63	NA	<5	<25	1.1	<0.5
	R12	N	10/4/2007	4.12	6212.11	--		1.56	2300	430	530	2000	240	NA	<5	120	7.4	1.7
	R13	N	5/15/2008	3.97	6212.26	--		1.71	484	140	70.5	NA	NA	368	<5	<100	3.76	<0.5
	R14	N	10/1/2008	4.80	6211.43	--		NM	3660	578	927	NA	NA	4690	<20	<400	16.6	2.6
	R15	N	5/13/2009	NM	NM	--	Hydrocarbon odor	1.22	549	70.5	49.8	NA	NA	392	<1	<20	1.54	<0.5
	R15	FD	5/13/2009	NM	NM	--	Hydrocarbon odor	1.22	570	72.9	44.7	NA	NA	356	<1	<20	1.51	<0.5
	R16	N	9/25/2009	4.97	6211.26	--	Strong hydrocarbon odor, sheen on purge	1.66	2030	638	773	NA	NA	3400	<10	<200	21.8	2.3
	R17	N	5/12/2010	5.18	6211.05	--	Sheen	1.46	1930	489	643	NA	NA	3400	<20	<400	25	4.7
	R18	N	10/15/2010	5.95	6210.28	--	Slight hydrocarbon odor, sheen	2.81	2910	315	298	NA	NA	4560	<20	<400	40.1	5.1
	R19	N	7/12/2011	5.35	6210.88	--	Slight hydrocarbon odor	1.54	2110	317	436	NA	NA	2500	<20	<400	16.4	2.9
	R20	N	8/6/2012	6.02	6210.21	--	Hydrocarbon odor, sheen	5.63	2880	232	757	NA	NA	3440	<10	<200	20.6	2.3
	R21	N	7/30/2013	NM	NM	--	Not sampled, well destroyed	NM	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7-1: Teton Texaco/Cache Chevron Sampling Data - BTEXMN & Total Petroleum Hydrocarbons

			<u>Groundwater Measurement Data</u>				<u>Field Parameter Data</u>	<u>Analytical Results & Action Levels</u>									
Event Code	Sample Code	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Dissolved Oxygen (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	m,p-Xylene (µg/L)	o-Xylene (µg/L)	Total Xylene (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	TPH-GRO (mg/L)	TPH-DRO (mg/L)
								5	1000	700	NL	NL	10000	40	1300	7.3	1.1
Teton Texaco/Cache Chevron																	
MW-TT-2R																	
R23	N	5/7/2015	5.88	6210.88	--	Hydrocarbon odor	1.41	3000	96.5	425	NA	NA	1930	<1	95	9.01	4
R24	N	10/6/2015	5.83	6210.93	--	Hydrocarbon and mothball odor	1.14	2320	43.3	641	NA	NA	2010	<0.6	229	19.8	3.9
R24	FD	10/6/2015	5.83	6210.93	--	Hydrocarbon and mothball odor	1.14	2340	52	610	NA	NA	1900	<0.06	<10	18.1	3.8
R26	N	10/21/2016	5.42	6211.34	--	Hydrocarbon odor	1.65	2500	<50	440	NA	NA	620	<20	120	17	2.1
R26	FD	10/21/2016	5.42	6211.34	--	Hydrocarbon odor	1.65	2500	<50	420	NA	NA	590	<20	120	17	2.2

NM - Not Measured
NA - Not Analyzed
NL - No Action Level
mg/L - milligrams per Liter
µg/L - micrograms per Liter
^a BL = Baseline, R1-R26 = Round 1 through Round 26, CR1=Closure Round 1
^b N = Normal Sample, FD = Field Duplicate
GW: Groundwater
ft AMSL: feet Above Mean Sea Level
NOTE: Bold values indicate results that exceed the Wyoming Department of Environmental Quality Action Levels.

MTBE - Methyl tert-Butyl Ether
TPH-GRO - Gasoline Range Organics (nC6-nC10)
TPH-DRO - Diesel Range Organics (nC10-nC32)

Table 7-2: Teton Texaco/Cache Chevron Sampling Data - Metals & Fuel Oxygenates

			<u>Ground Water Measurement Data</u>				<u>Analytical Results & Action Levels</u>									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Lead (mg/L)	Lead- Dissolved (mg/L)	Cadmium (mg/L)	Cadmium- Dissolved (mg/L)	Chromium (mg/L)	Chromium- Dissolved (mg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)
							0.05	0.05	0.005	0.005	0.1	0.1	1200	190	130	220
Teton Texaco/Cache Chevron																
MW-016																
BL	N	9/11/2001	4.34	6211.62	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R1	N	5/7/2002	4.87	6211.09	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R2	N	11/4/2002	5.13	6210.83	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R3	N	4/30/2003	4.98	6210.98	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R4	N	10/1/2003	5.16	6210.80	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R5	N	5/20/2004	4.79	6211.17	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R6	N	10/4/2004	5.55	6210.41	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R7	N	5/14/2005	4.43	6211.53	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R8	N	10/5/2005	5.10	6210.86	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/7/2006	4.73	6211.23	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R10	N	9/26/2006	4.86	6211.10	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R11	N	5/22/2007	5.28	6210.68	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R12	N	10/5/2007	5.34	6210.62	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R13	N	5/15/2008	4.81	6211.15	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R14	N	10/2/2008	5.04	6210.92	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R15	N	5/14/2009	NM	NM	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R16	N	9/24/2009	4.75	6211.21	--	Slight hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R17	N	5/20/2010	4.66	6211.30	--	Purged dry at 0.25 gallons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R18	N	10/15/2010	5.89	6210.07	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R19	N	7/13/2011	5.22	6210.74	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R20	N	8/7/2012	5.57	6210.39	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R21	N	8/1/2013	5.43	6210.53	--	Purged dry at 2.5 gallons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R22	N	8/12/2014	5.35	6210.61	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R24	N	10/6/2015	4.71	6211.25	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-020																
BL	N	9/12/2001	5.03	6212.12	--			NA	NA	NA	NA	NA	NA	NA	NA	NA
R5	N	5/20/2004	5.20	6211.95	--		<0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
R6	N	10/4/2004	4.48	6212.67	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R6	FD	10/4/2004	4.48	6212.67	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R7	N	5/14/2005	3.62	6213.53	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R8	N	10/5/2005	4.02	6213.13	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/7/2006	4.32	6212.83	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R10	N	9/26/2006	4.30	6212.85	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R11	N	5/22/2007	4.12	6213.03	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R11	FD	5/22/2007	4.12	6213.03	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R12	N	10/4/2007	4.98	6212.17	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R13	N	5/15/2008	4.73	6212.42	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7-2: Teton Texaco/Cache Chevron Sampling Data - Metals & Fuel Oxygenates

			<u>Ground Water Measurement Data</u>				<u>Analytical Results & Action Levels</u>									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Lead (mg/L)	Lead- Dissolved (mg/L)	Cadmium (mg/L)	Cadmium- Dissolved (mg/L)	Chromium (mg/L)	Chromium- Dissolved (mg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)
							0.05	0.05	0.005	0.005	0.1	0.1	1200	190	130	220
Teton Texaco/Cache Chevron																
<u>MW-020</u>																
	R14	N	10/1/2008	5.09	6212.06	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R15	N	5/13/2009	NM	NM	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R16	N	9/25/2009	5.16	6211.99	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R17	N	5/12/2010	5.19	6211.96	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R18	N	10/15/2010	6.05	6211.10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R19	N	7/12/2011	5.25	6211.90	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R19	FD	7/12/2011	5.25	6211.90	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R20	N	8/6/2012	5.99	6211.16	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R21	N	8/1/2013	6.04	6211.11	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R22	N	8/12/2014	6.05	6211.10	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R24	N	10/6/2015	5.56	6211.59	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R26	N	10/21/2016	5.15	6212.00	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<u>MW-021</u>																
	BL	N	9/12/2001	5.36	6210.40	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R1	N	5/6/2002	4.54	6211.22	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R1	N	5/6/2002	4.54	6211.22	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R1	N	5/6/2002	NM	NM	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R1	N	5/6/2002	NM	NM	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R1	FD	5/6/2002	4.54	6211.22	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R1	FD	5/6/2002	4.54	6211.22	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R1	FD	5/6/2002	NM	NM	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R1	FD	5/6/2002	NM	NM	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R2	N	11/5/2002	5.18	6210.58	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R3	N	5/1/2003	5.15	6210.61	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R3	FD	5/1/2003	5.15	6210.61	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R4	N	10/1/2003	5.39	6210.37	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R5	N	5/20/2004	4.84	6210.92	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R6	N	10/4/2004	5.06	6210.70	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R7	N	5/14/2005	4.01	6211.75	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R8	N	10/5/2005	4.57	6211.19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R9	N	5/7/2006	4.45	6211.31	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R10	N	9/27/2006	4.57	6211.19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R10	N	9/27/2006	4.57	6211.19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R10	N	9/27/2006	NM	NM	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R10	N	9/27/2006	NM	NM	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R10	FD	9/27/2006	4.57	6211.19	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	R10	FD	9/27/2006	NM	NM	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7-2: Teton Texaco/Cache Chevron Sampling Data - Metals & Fuel Oxygenates

			<u>Ground Water Measurement Data</u>				<u>Analytical Results & Action Levels</u>									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Lead (mg/L)	Lead- Dissolved (mg/L)	Cadmium (mg/L)	Cadmium- Dissolved (mg/L)	Chromium (mg/L)	Chromium- Dissolved (mg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)
							0.05	0.05	0.005	0.005	0.1	0.1	1200	190	130	220
Teton Texaco/Cache Chevron																
<u>MW-021</u>																
R10	FD	9/27/2006	NM	NM	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R10	FD	9/27/2006	4.57	6211.19	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R11	N	5/23/2007	4.96	6210.80	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R12	N	10/4/2007	5.07	6210.69	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R13	N	5/15/2008	4.70	6211.06	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R14	N	10/1/2008	4.96	6210.80	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R15	N	5/13/2009	3.73	6212.03	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R16	N	9/24/2009	4.67	6211.09	--	Hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R17	N	5/12/2010	4.53	6211.23	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R18	N	10/15/2010	6.22	6209.54	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R19	N	7/12/2011	5.05	6210.71	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R20	N	8/6/2012	5.62	6210.14	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R21	N	8/1/2013	5.42	6210.34	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R22	N	8/11/2014	5.38	6210.38	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R24	N	10/6/2015	5.35	6210.41	--	Slight hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R26	N	10/21/2016	4.89	6210.87	--	Slight hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<u>MW-022</u>																
BL	N	9/12/2001	5.95	6209.80	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R1	N	5/6/2002	4.80	6210.95	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R2	N	11/5/2002	5.82	6209.93	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R3	N	5/1/2003	4.90	6210.85	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R4	N	10/1/2003	4.78	6210.97	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R5	N	5/20/2004	4.31	6211.44	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R6	N	10/4/2004	3.93	6211.82	--	No Sample Taken, Well Broken, Now MW-022a	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<u>MW-022A</u>																
R7	N	7/14/2005	4.12	6211.73	--	Formerly MW-022	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R8	N	10/5/2005	3.64	6212.21	--	Formerly MW-022	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/9/2006	3.56	6212.29	--	Formerly MW-022	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R10	N	9/26/2006	4.00	6211.85	--	Formerly MW-022. Purged dry after 2 gallons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R11	N	5/22/2007	3.59	6212.26	--	Formerly MW-022. Purged dry after 2 gallons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R12	N	10/3/2007	4.19	6211.66	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R13	N	5/15/2008	4.21	6211.64	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R14	N	10/1/2008	5.10	6210.75	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R15	N	5/13/2009	4.32	6211.53	--	Hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R16	N	9/24/2009	5.33	6210.52	--	Hydrocarbon odor, sheen. Purged dry at 2 gallons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R17	N	5/12/2010	5.65	6210.20	--	Purged dry at 1.75 gallons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R18	N	10/15/2010	5.70	6210.15	--	Purged dry at 1.5 gallons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7-2: Teton Texaco/Cache Chevron Sampling Data - Metals & Fuel Oxygenates

			Ground Water Measurement Data				Analytical Results & Action Levels									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Lead (mg/L)	Lead- Dissolved (mg/L)	Cadmium (mg/L)	Cadmium- Dissolved (mg/L)	Chromium (mg/L)	Chromium- Dissolved (mg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)
							0.05	0.05	0.005	0.005	0.1	0.1	1200	190	130	220
Teton Texaco/Cache Chevron																
MW-022A																
	R19	N	7/12/2011	6.02	6209.83	--										
	R20	N	8/6/2012	6.59	6209.26	--										
	R21	N	8/1/2013	NM	NM	--	Not sampled, well destroyed during construction/excavation									
MW-022R																
	R23	N	5/7/2015	5.79	6210.86	--	Hydrocarbon odor						<1	<1	<1	<20
	R24	N	10/6/2015	5.79	6210.86	--	Strong hydrocarbon odor									
	R26	N	10/21/2016	6.43	6210.22	--	Hydrocarbon odor									
MW-023																
	BL	N	9/12/2001	5.00	6209.96	--										
	BL	FD	9/12/2001	5.00	6209.96	--										
	R1	N	5/6/2002	4.42	6210.54	--										
	R2	N	11/5/2002	5.04	6209.92	--										
	R3	N	5/1/2003	5.02	6209.94	--										
	R4	N	10/1/2003	5.24	6209.72	--										
	R4	FD	10/1/2003	5.24	6209.72	--										
	R5	N	5/20/2004	4.81	6210.15	--										
	R6	N	10/4/2004	4.95	6210.01	--										
	R7	N	5/14/2005	4.01	6210.95	--										
	R8	N	10/5/2005	4.65	6210.31	--										
	R8	FD	10/5/2005	4.65	6210.31	--										
	R9	N	5/7/2006	4.30	6210.66	--										
	R10	N	9/26/2006	5.45	6209.51	--										
	R11	N	5/23/2007	4.73	6210.23	--										
	R12	N	10/3/2007	4.82	6210.14	--										
	R13	N	5/15/2008	4.57	6210.39	--										
	R13	FD	5/15/2008	4.57	6210.39	--										
	R14	N	10/1/2008	4.88	6210.08	--										
	R15	N	5/13/2009	3.37	6211.59	--										
	R16	N	9/25/2009	4.03	6210.93	--										
	R16	FD	9/25/2009	4.03	6210.93	--										
	R17	N	5/12/2010	4.04	6210.92	--										
	R18	N	10/15/2010	6.50	6208.46	--										
	R18	FD	10/15/2010	6.50	6208.46	--										
	R19	N	7/12/2011	5.09	6209.87	--										
	R20	N	8/6/2012	5.63	6209.33	--										
	R21	N	8/1/2013	5.79	6209.17	--										
	R22	N	8/11/2014	5.63	6209.33	--										

Table 7-2: Teton Texaco/Cache Chevron Sampling Data - Metals & Fuel Oxygenates

			<u>Ground Water Measurement Data</u>				<u>Analytical Results & Action Levels</u>									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Lead (mg/L)	Lead- Dissolved (mg/L)	Cadmium (mg/L)	Cadmium- Dissolved (mg/L)	Chromium (mg/L)	Chromium- Dissolved (mg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)
							0.05	0.05	0.005	0.005	0.1	0.1	1200	190	130	220
Teton Texaco/Cache Chevron																
MW-023																
	R24	N	10/6/2015	5.32	6209.64	--										
	R26	N	10/21/2016	4.63	6210.33	--	Slight hydrocarbon odor									
MW-025																
	BL	N	9/12/2001	5.34	6211.06	--										
	R1	N	5/6/2002	3.98	6212.42	--										
	R2	N	11/5/2002	5.02	6211.38	--										
	R2	FD	11/5/2002	5.02	6211.38	--										
	R3	N	5/1/2003	4.52	6211.88	--										
	R4	N	10/1/2003	4.58	6211.82	--										
	R5	N	5/20/2004	3.99	6212.41	--										
	R6	N	10/4/2004	4.13	6212.27	--										
	R7	N	5/14/2005	3.20	6213.20	--										
	R8	N	10/5/2005	3.65	6212.75	--										
	R9	N	5/9/2006	3.68	6212.72	--										
	R10	N	9/27/2006	3.90	6212.50	--										
	R11	N	5/22/2007	3.47	6212.93	--										
	R12	N	10/4/2007	4.32	6212.08	--										
	R13	N	5/15/2008	4.08	6212.32	--										
	R14	N	10/1/2008	4.80	6211.60	--	Hydrocarbon odor									
	R15	N	5/13/2009	3.83	6212.57	--										
	R16	N	9/25/2009	4.92	6211.48	--	Strong hydrocarbon odor									
	R17	N	5/12/2010	5.01	6211.39	--										
	R18	N	10/15/2010	5.91	6210.49	--	Slight hydrocarbon odor									
	R19	N	7/10/2011	5.12	6211.28	--	Slight hydrocarbon odor									
	R20	N	8/6/2012	5.85	6210.55	--	Slight hydrocarbon odor									
	R21	N	8/1/2013	5.98	6210.42	--	Degraded fuel odor									
	R22	N	8/12/2014	6.06	6210.34	--										
	R24	N	10/6/2015	5.28	6211.12	--	Hydrocarbon odor									
	R26	N	10/21/2016	5.44	6210.96	--	Hydrocarbon odor									
MW-029																
	R20	N	8/6/2012	6.84	6206.90	--										
	R21	N	8/1/2013	7.15	6206.59	--										
	R22	N	8/12/2014	7.54	6206.20	--										
	R24	N	10/6/2015	6.42	6207.32	--										
	R26	N	10/21/2016	7.13	6206.61	--										
MW-030																
	R20	N	8/7/2012	6.08	6207.11	--										

Table 7-2: Teton Texaco/Cache Chevron Sampling Data - Metals & Fuel Oxygenates

			<u>Ground Water Measurement Data</u>				<u>Analytical Results & Action Levels</u>									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Lead (mg/L)	Lead- Dissolved (mg/L)	Cadmium (mg/L)	Cadmium- Dissolved (mg/L)	Chromium (mg/L)	Chromium- Dissolved (mg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)
							0.05	0.05	0.005	0.005	0.1	0.1	1200	190	130	220
Teton Texaco/Cache Chevron																
MW-030																
R21	N	8/1/2013	6.32	6206.87	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-034																
R20	N	8/6/2012	4.45	6208.57	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R21	N	8/1/2013	4.69	6208.33	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R22	N	8/12/2014	5.10	6207.92	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R24	N	10/6/2015	5.17	6207.85	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R26	N	10/21/2016	5.63	6207.39	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-152																
R13	N	5/15/2008	2.91	6209.27	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R20	N	8/9/2012	4.84	6207.34	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R21	N	8/1/2013	4.65	6207.53	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R21	FD	8/1/2013	4.65	6207.53	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R22	N	8/12/2014	3.99	6208.19	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R24	N	10/6/2015	3.85	6208.33	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-300																
BL	N	9/12/2001	6.36	6209.99	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R1	N	5/6/2002	5.26	6211.09	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R2	N	11/5/2002	6.30	6210.05	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R3	N	5/1/2003	5.36	6210.99	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R4	N	10/1/2003	5.20	6211.15	0.01		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R5	N	5/20/2004	4.65	6211.70	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R6	N	10/4/2004	4.24	6212.11	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R7	N	5/14/2005	3.39	6212.96	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R8	N	10/5/2005	3.75	6212.60	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/8/2006	3.75	6212.60	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R10	N	9/26/2006	4.17	6212.18	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R11	N	5/23/2007	3.78	6212.57	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R12	N	10/4/2007	4.25	6212.10	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R13	N	5/15/2008	4.00	6212.35	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R14	N	10/1/2008	5.30	6211.05	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R15	N	5/13/2009	NM	NM	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R16	N	9/24/2009	5.31	6211.04	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R17	N	5/12/2010	5.73	6210.62	--	Old fuel odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R17	FD	5/12/2010	5.73	6210.62	--	Old fuel odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R18	N	10/15/2010	6.50	6209.85	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R19	N	7/12/2011	6.27	6210.08	--	Hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R20	N	8/6/2012	6.83	6209.52	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7-2: Teton Texaco/Cache Chevron Sampling Data - Metals & Fuel Oxygenates

			<u>Ground Water Measurement Data</u>				<u>Analytical Results & Action Levels</u>									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Lead (mg/L)	Lead- Dissolved (mg/L)	Cadmium (mg/L)	Cadmium- Dissolved (mg/L)	Chromium (mg/L)	Chromium- Dissolved (mg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)
							0.05	0.05	0.005	0.005	0.1	0.1	1200	190	130	220
Teton Texaco/Cache Chevron																
<u>MW-300</u>																
R20	FD	8/6/2012	6.83	6209.52	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R21	N	8/1/2013	7.03	6209.32	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R22	N	8/11/2014	7.16	6209.19	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R22	FD	8/11/2014	7.16	6209.19	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R24	N	10/6/2015	6.56	6209.79	--	Hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R26	N	10/21/2016	6.21	6210.14	--	Slight hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<u>MW-301</u>																
BL	N	9/11/2001	5.24	6208.08	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R6	N	10/4/2004	5.05	6208.27	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R7	N	5/14/2005	4.59	6208.73	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R7	FD	5/14/2005	4.59	6208.73	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R8	N	10/5/2005	4.79	6208.53	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/7/2006	5.04	6208.28	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R10	N	9/26/2006	4.85	6208.47	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R11	N	5/22/2007	5.02	6208.30	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R12	N	10/4/2007	5.17	6208.15	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R13	N	5/15/2008	5.37	6207.95	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R14	N	10/2/2008	5.49	6207.83	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R15	N	5/14/2009	5.23	6208.09	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R16	N	9/24/2009	5.38	6207.94	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R17	N	5/20/2010	5.29	6208.03	--	Purged dry at 2 gallons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R17	FD	5/20/2010	5.29	6208.03	--	Purged dry at 2 gallons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R19	N	7/13/2011	5.50	6207.82	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R20	N	8/6/2012	5.60	6207.72	--	Slight hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R21	N	8/1/2013	5.32	6208.00	--	Purged dry at 2.25 gallons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R22	N	8/12/2014	5.55	6207.77	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R24	N	10/7/2015	5.33	6207.99	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R26	N	10/21/2016	4.96	6208.36	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<u>MW-375</u>																
BL	N	9/12/2001	5.34		--	Well Not Surveyed	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R19	N	7/14/2011	5.70		--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R20	N	8/6/2012	NM	NM	--	No Sample Taken, Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R21	N	8/1/2013	NM	NM	--	No Sample Taken, Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R22	N	8/11/2014	NM	NM	--	No Sample Taken, Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R24	N	10/6/2015	4.76		--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<u>MW-406</u>																
BL	N	9/11/2001	2.55	6214.03	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7-2: Teton Texaco/Cache Chevron Sampling Data - Metals & Fuel Oxygenates

			<u>Ground Water Measurement Data</u>				<u>Analytical Results & Action Levels</u>									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Lead (mg/L)	Lead- Dissolved (mg/L)	Cadmium (mg/L)	Cadmium- Dissolved (mg/L)	Chromium (mg/L)	Chromium- Dissolved (mg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)
							0.05	0.05	0.005	0.005	0.1	0.1	1200	190	130	220
Teton Texaco/Cache Chevron																
<u>MW-406</u>																
BL	FD	9/11/2001	2.55	6214.03	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R1	N	5/7/2002	5.14	6211.44	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R2	N	11/4/2002	5.55	6211.03	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R3	N	4/30/2003	5.42	6211.16	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R4	N	10/1/2003	5.41	6211.17	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R5	N	5/20/2004	2.96	6213.62	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R6	N	10/4/2004	5.66	6210.92	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R7	N	5/14/2005	3.35	6213.23	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R8	N	10/5/2005	5.95	6210.63	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/7/2006	3.51	6213.07	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/7/2006	NM	NM	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/7/2006	NM	NM	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/7/2006	3.51	6213.07	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	FD	5/7/2006	3.51	6213.07	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	FD	5/7/2006	NM	NM	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	FD	5/7/2006	NM	NM	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	FD	5/7/2006	3.51	6213.07	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R10	N	9/26/2006	5.25	6211.33	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R11	N	5/22/2007	5.87	6210.71	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R12	N	10/5/2007	5.79	6210.79	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R13	N	5/15/2008	5.24	6211.34	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R13	FD	5/15/2008	5.24	6211.34	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R14	N	10/2/2008	5.26	6211.32	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R15	N	5/14/2009	5.03	6211.55	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R16	N	9/24/2009	9.21	6207.37	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R17	N	5/20/2010	5.69	6210.89	--	Purged dry at 1.5 gallons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R18	N	10/15/2010	6.61	6209.97	--	Purged dry at 2.5 gallons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R19	N	7/13/2011	6.21	6210.37	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R20	N	8/6/2012	6.25	6210.33	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R21	N	8/1/2013	6.27	6210.31	--	Purged dry at 2 gallons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R22	N	8/12/2014	5.93	6210.65	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R24	N	10/6/2015	5.39	6211.19	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R24	FD	10/6/2015	5.39	6211.19	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<u>MW-407</u>																
BL	N	9/11/2001	5.67	6210.05	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R1	N	5/7/2002	5.90	6209.82	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R1	FD	5/7/2002	5.90	6209.82	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7-2: Teton Texaco/Cache Chevron Sampling Data - Metals & Fuel Oxygenates

			<u>Ground Water Measurement Data</u>				<u>Analytical Results & Action Levels</u>									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Lead (mg/L)	Lead- Dissolved (mg/L)	Cadmium (mg/L)	Cadmium- Dissolved (mg/L)	Chromium (mg/L)	Chromium- Dissolved (mg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)
							0.05	0.05	0.005	0.005	0.1	0.1	1200	190	130	220
Teton Texaco/Cache Chevron																
<u>MW-407</u>																
R2	N	11/4/2002	6.47	6209.25	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R3	N	4/30/2003	6.45	6209.27	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R4	N	10/1/2003	6.18	6209.54	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R5	N	5/20/2004	6.01	6209.71	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R6	N	10/4/2004	6.79	6208.93	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R6	FD	10/4/2004	6.79	6208.93	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R7	N	5/14/2005	5.50	6210.22	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R8	N	10/5/2005	6.50	6209.22	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/7/2006	6.18	6209.54	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R10	N	9/26/2006	6.45	6209.27	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R11	N	5/22/2007	6.43	6209.29	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R12	N	10/5/2007	6.64	6209.08	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R12	FD	10/5/2007	6.64	6209.08	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R13	N	5/15/2008	5.76	6209.96	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R14	N	10/2/2008	3.00	6212.72	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R14	FD	10/2/2008	3.00	6212.72	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R15	N	5/14/2009	5.67	6210.05	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R16	N	9/24/2009	6.81	6208.91	--	Slight odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R16	FD	9/24/2009	6.81	6208.91	--	Slight odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R17	N	5/20/2010	6.29	6209.43	--	Purged dry at 1.75 gallons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R18	N	10/15/2010	7.37	6208.35	--	Degraded fuel odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R19	N	7/13/2011	6.80	6208.92	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R20	N	8/7/2012	6.86	6208.86	--	Slight hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R21	N	8/1/2013	6.79	6208.93	--	Purged dry at 2.5 gallons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R22	N	8/12/2014	6.55	6209.17	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R24	N	10/7/2015	6.24	6209.48	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R26	N	10/21/2016	6.30	6209.42	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<u>MW-408</u>																
BL	N	9/12/2001	4.61	6209.83	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R1	N	5/6/2002	4.44	6210.00	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R2	N	11/4/2002	4.82	6209.62	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R3	N	4/30/2003	4.67	6209.77	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R4	N	10/1/2003	5.09	6209.35	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R5	N	5/20/2004	4.15	6210.29	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R6	N	10/4/2004	5.05	6209.39	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R7	N	5/14/2005	3.88	6210.56	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R8	N	10/5/2005	NM	NM	--	No Sample Taken, Well Not Accessible	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7-2: Teton Texaco/Cache Chevron Sampling Data - Metals & Fuel Oxygenates

			<u>Ground Water Measurement Data</u>				<u>Analytical Results & Action Levels</u>									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Lead (mg/L)	Lead- Dissolved (mg/L)	Cadmium (mg/L)	Cadmium- Dissolved (mg/L)	Chromium (mg/L)	Chromium- Dissolved (mg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)
							0.05	0.05	0.005	0.005	0.1	0.1	1200	190	130	220
Teton Texaco/Cache Chevron																
<u>MW-408</u>																
R9	N	5/7/2006	4.50	6209.94	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R10	N	9/26/2006	4.55	6209.89	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R11	N	5/23/2007	5.13	6209.31	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R12	N	10/5/2007	NM	NM	--	No Sample Taken, Well Destroyed	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<u>MW-509</u>																
R2	N	11/5/2002	6.44	6209.12	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R3	N	5/1/2003	6.11	6209.45	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R4	N	10/1/2003	5.86	6209.70	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R5	N	5/20/2004	5.62	6209.94	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R6	N	10/4/2004	5.21	6210.35	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R7	N	5/14/2005	4.69	6210.87	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R8	N	10/5/2005	4.83	6210.74	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/8/2006	NM	NM	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/8/2006	4.98	6210.58	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/8/2006	NM	NM	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/8/2006	4.98	6210.58	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	FD	5/8/2006	4.98	6210.58	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	FD	5/8/2006	4.98	6210.58	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	FD	5/8/2006	NM	NM	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	FD	5/8/2006	NM	NM	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R10	N	9/27/2006	5.05	6210.51	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R11	N	5/23/2007	5.09	6210.47	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R12	N	10/3/2007	5.34	6210.22	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R13	N	5/15/2008	5.49	6210.07	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R14	N	10/1/2008	6.03	6209.53	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R15	N	5/13/2009	5.47	6210.09	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R16	N	9/25/2009	6.30	6209.26	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R17	N	5/12/2010	5.75	6209.81	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R18	N	10/15/2010	6.52	6209.04	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R18	FD	10/15/2010	6.52	6209.04	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R19	N	7/12/2011	6.42	6209.14	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R20	N	8/6/2012	6.77	6208.79	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R21	N	8/1/2013	6.97	6208.59	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R22	N	8/12/2014	7.11	6208.45	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R22	FD	8/12/2014	7.11	6208.45	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R24	N	10/6/2015	6.32	6209.24	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7-2: Teton Texaco/Cache Chevron Sampling Data - Metals & Fuel Oxygenates

			<u>Ground Water Measurement Data</u>				<u>Analytical Results & Action Levels</u>									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Lead (mg/L)	Lead- Dissolved (mg/L)	Cadmium (mg/L)	Cadmium- Dissolved (mg/L)	Chromium (mg/L)	Chromium- Dissolved (mg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)
							0.05	0.05	0.005	0.005	0.1	0.1	1200	190	130	220
Teton Texaco/Cache Chevron																
<u>MW-TT-1</u>																
R2	N	11/5/2002	5.88	6210.09	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R3	N	5/1/2003	5.57	6210.40	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R4	N	10/1/2003	5.85	6210.12	0.05		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R5	N	5/20/2004	5.24	6210.73	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R5	FD	5/20/2004	5.24	6210.73	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R6	N	10/4/2004	5.15	6210.82	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R7	N	5/14/2005	4.01	6211.96	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R8	N	10/5/2005	4.65	6211.32	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/9/2006	4.22	6211.75	--		NA	NA	NA	NA	NA	NA	NA	<5	<5	<50
R10	N	9/26/2006	4.79	6211.18	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R11	N	5/23/2007	4.67	6211.30	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R12	N	10/3/2007	5.20	6210.77	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R13	N	5/15/2008	4.90	6211.07	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R14	N	10/1/2008	5.57	6210.40	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R15	N	5/13/2009	NM	NM	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R16	N	9/24/2009	4.52	6211.45	--	Hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R17	N	5/12/2010	4.50	6211.47	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R18	N	10/15/2010	6.61	6209.36	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R19	N	7/12/2011	5.49	6210.48	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R20	N	8/6/2012	6.06	6209.91	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R21	N	8/1/2013	6.49	6209.48	--	Purged dry at 2 gallons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R22	N	8/11/2014	6.36	6209.61	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R24	N	10/6/2015	5.98	6209.99	--	Slight hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R26	N	10/21/2016	5.49	6210.48	--	Slight hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<u>MW-TT-2</u>																
BL	N	9/12/2001	5.09	6211.14	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R2	N	11/5/2002	5.32	6210.91	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R3	N	5/1/2003	5.66	6210.57	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R4	N	8/19/2003	5.04	6211.19	--	No Sample Taken	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R4	N	9/18/2003	4.80	6211.43	--	No Sample Taken	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R4	N	9/25/2003	4.69	6211.54	--	No Sample Taken	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R4	N	10/21/2003	5.10	6211.13	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R5	N	5/20/2004	4.25	6211.98	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R6	N	10/4/2004	3.93	6212.30	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R7	N	5/14/2005	3.06	6213.17	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R8	N	10/5/2005	3.47	6212.76	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/7/2006	3.56	6212.67	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 7-2: Teton Texaco/Cache Chevron Sampling Data - Metals & Fuel Oxygenates

			Ground Water Measurement Data				Analytical Results & Action Levels									
Event Code ^a	Sample Code ^b	Sample Date	Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Lead (mg/L)	Lead- Dissolved (mg/L)	Cadmium (mg/L)	Cadmium- Dissolved (mg/L)	Chromium (mg/L)	Chromium- Dissolved (mg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	TBA (µg/L)
							0.05	0.05	0.005	0.005	0.1	0.1	1200	190	130	220
Teton Texaco/Cache Chevron																
MW-TT-2																
R9	N	5/7/2006	NM	NM	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/7/2006	NM	NM	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	N	5/7/2006	3.56	6212.67	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	FD	5/7/2006	NM	NM	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	FD	5/7/2006	3.56	6212.67	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	FD	5/7/2006	3.56	6212.67	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R9	FD	5/7/2006	NM	NM	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R10	N	9/28/2006	3.88	6212.35	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R11	N	5/22/2007	3.27	6212.96	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R12	N	10/4/2007	4.12	6212.11	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R13	N	5/15/2008	3.97	6212.26	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R14	N	10/1/2008	4.80	6211.43	--		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R15	N	5/13/2009	NM	NM	--	Hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R15	FD	5/13/2009	NM	NM	--	Hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R16	N	9/25/2009	4.97	6211.26	--	Strong hydrocarbon odor, sheen on purge	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R17	N	5/12/2010	5.18	6211.05	--	Sheen	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R18	N	10/15/2010	5.95	6210.28	--	Slight hydrocarbon odor, sheen	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R19	N	7/12/2011	5.35	6210.88	--	Slight hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R20	N	8/6/2012	6.02	6210.21	--	Hydrocarbon odor, sheen	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R21	N	7/30/2013	NM	NM	--	Not sampled, well destroyed	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-TT-2R																
R23	N	5/7/2015	5.88	6210.88	--	Hydrocarbon odor	NA	NA	NA	NA	NA	NA	<1	<1	<1	<20
R24	N	10/6/2015	5.83	6210.93	--	Hydrocarbon and mothball odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R24	FD	10/6/2015	5.83	6210.93	--	Hydrocarbon and mothball odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R26	N	10/21/2016	5.42	6211.34	--	Hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R26	FD	10/21/2016	5.42	6211.34	--	Hydrocarbon odor	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

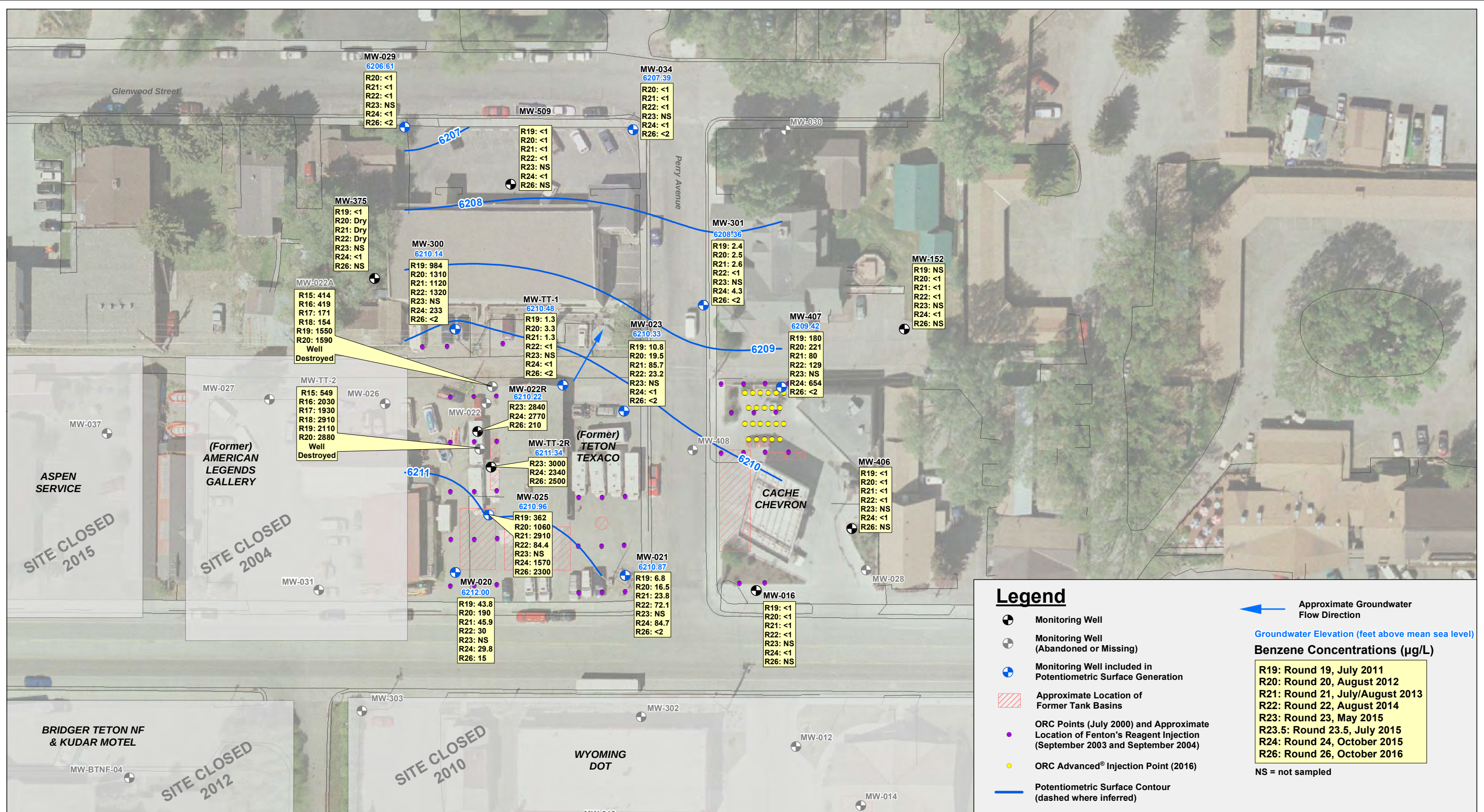
Table 7-2: Teton Texaco/Cache Chevron Sampling Data - Metals & Fuel Oxygenates

Event Code	Sample Code	Sample Date	Ground Water Measurement Data				Analytical Results & Action Levels							
			Depth to Water (ft)	GW Elevation (ft AMSL)	Free Product Thickness (ft)	Comments	Lead	Lead-	Cadmium	Cadmium-	Chromium	Chromium-	DIPE	ETBE
							(mg/L)	Dissolved	(mg/L)	Dissolved	(mg/L)	Dissolved	(µg/L)	(µg/L)
							0.05	0.05	0.005	0.005	0.1	0.1	1200	190
													130	220

NM - Not Measured
NA - Not Analyzed
NL - No Action Level
mg/L - milligrams per Liter
µg/L - micrograms per Liter
^a BL = Baseline, R1-R26 = Round 1 through Round 26, CR1=Closure Round 1
^b N = Normal Sample, FD = Field Duplicate
GW: Groundwater
ft AMSL: feet Above Mean Sea Level
NOTE: Bold values indicate results that exceed the Wyoming Department of Environmental Quality Action Levels.

DIPE - Di-Isopropyl Ether
ETBE - Ethyl tert-Butyl Ether
TAME - tert-Amyl Methyl Ether
TBA - tert-Butyl alcohol

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30 0 30 60 Feet



**Historic Benzene Concentrations and
Round 26 Potentiometric Surface
North Jackson Sites
Jackson Remediation Project
Jackson, WY**

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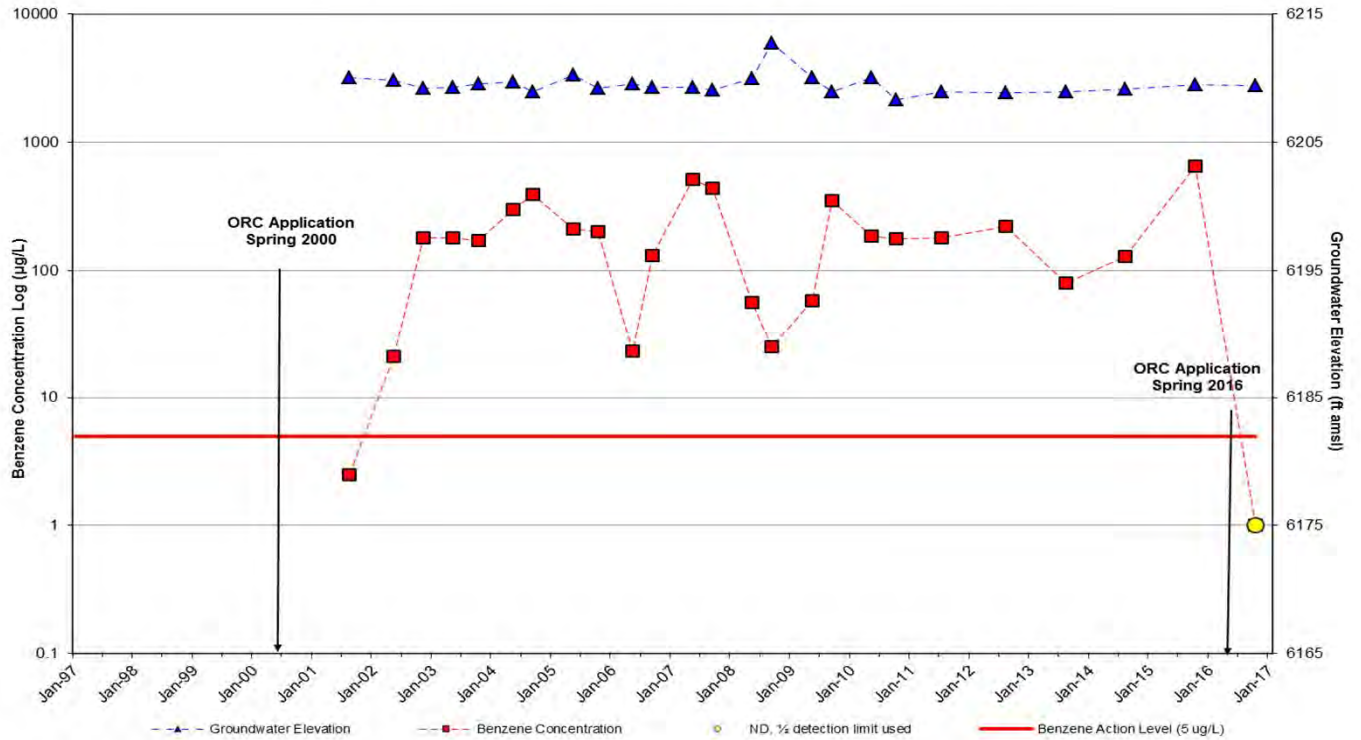


Round 26 Benzene Isoconcentration Contours
North Jackson Sites
Jackson Remediation Project
Jackson, WY

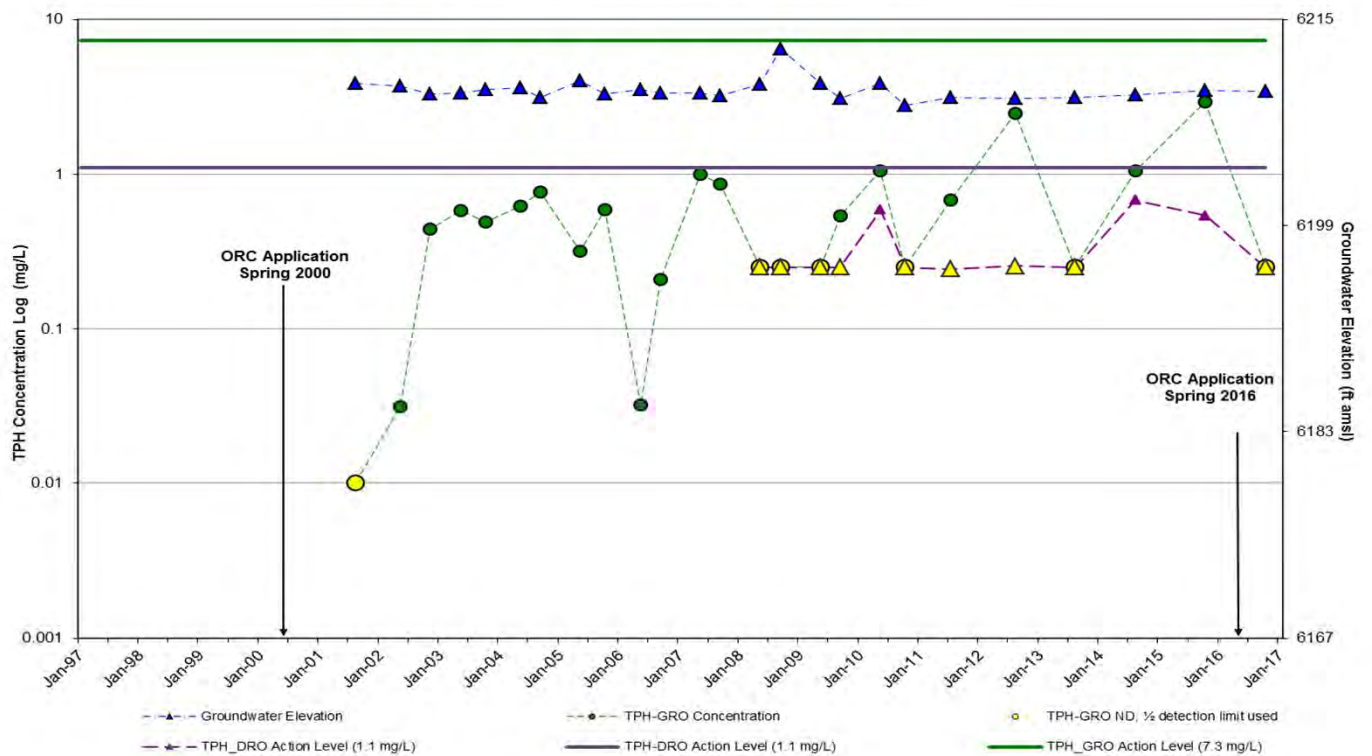
Figure 7-2



MW-407 Benzene Concentrations and Groundwater Elevations



MW-407 TPH Concentrations and Groundwater Elevations



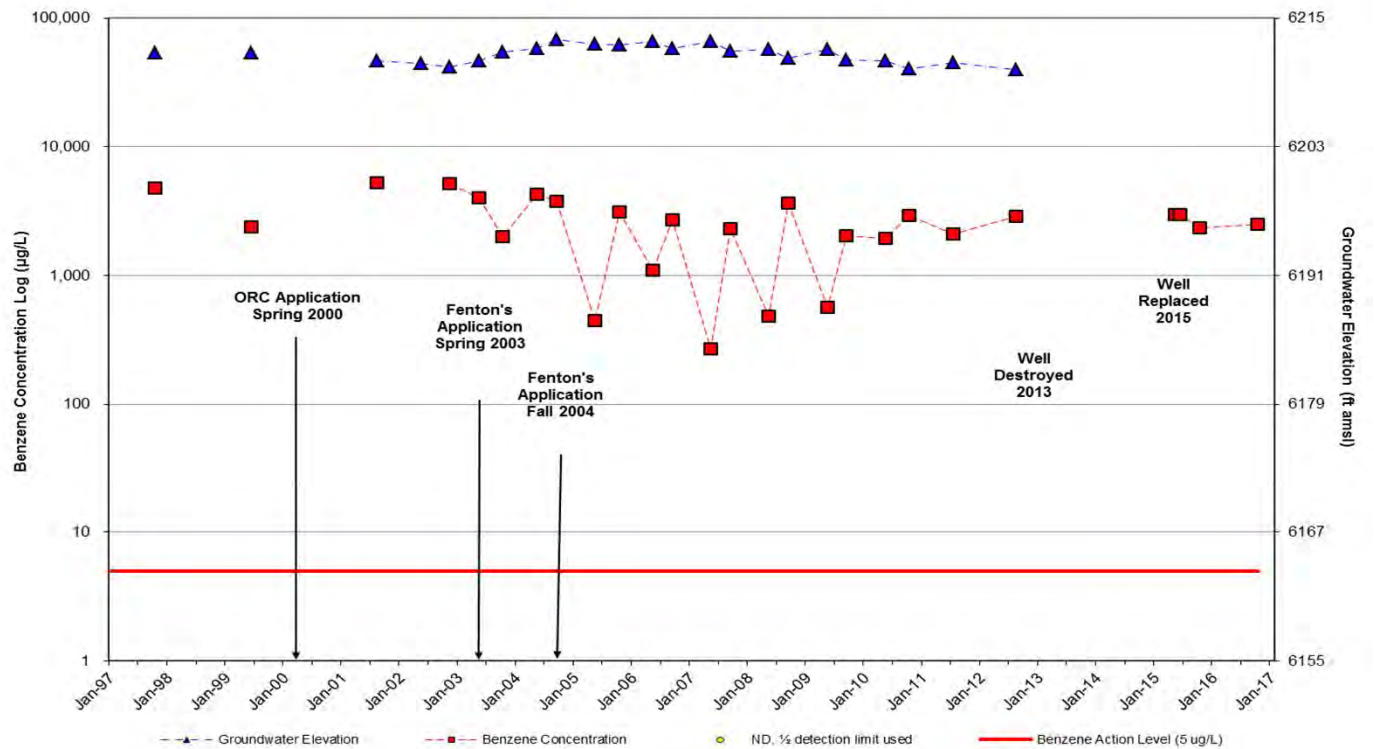
Jackson LAUST
Jackson, WY

Trend Analysis for MW-407 Cache Chevron Site, 1997-2016

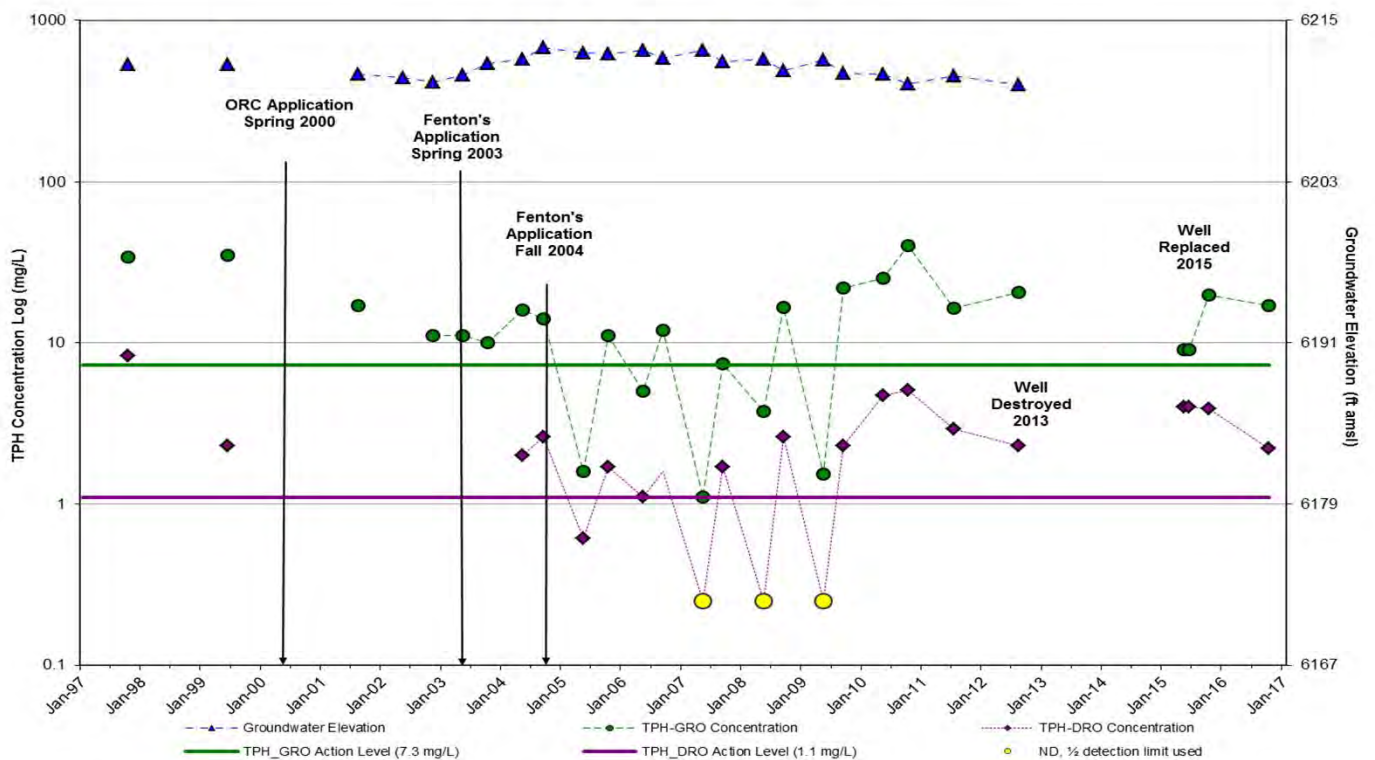
Chart 7-1

URS

MW-TT-2/MW-TT-2R Benzene Concentrations and Groundwater Elevations



MW-TT-2/MW-TT-2R TPH Concentrations and Groundwater Elevations



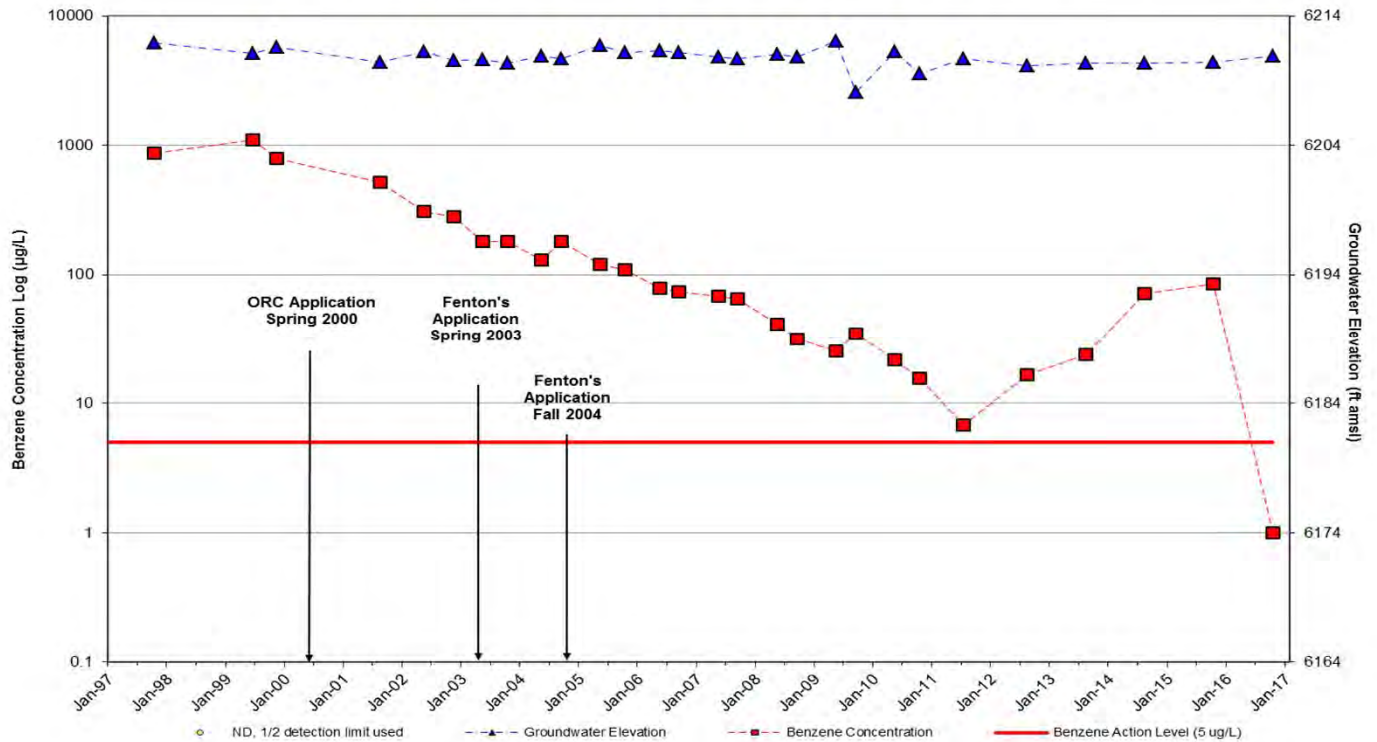
Jackson LAUST
Jackson, WY

Trend Analysis for MW-TT-2/TT-2R Teton Texaco Site, 1997-2016

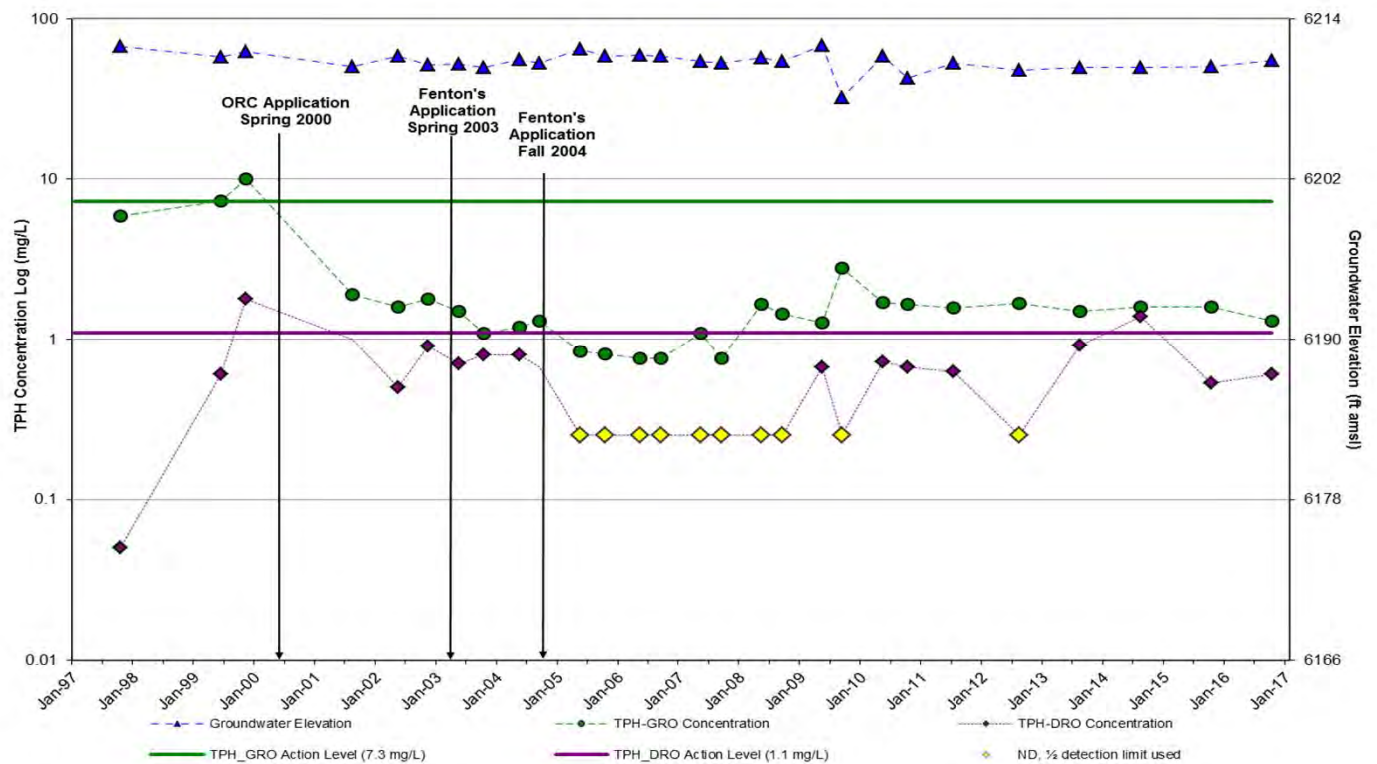
Chart 7-2

URS

MW-021 Benzene Concentrations and Groundwater Elevations



MW-021 TPH Concentrations and Groundwater Elevations



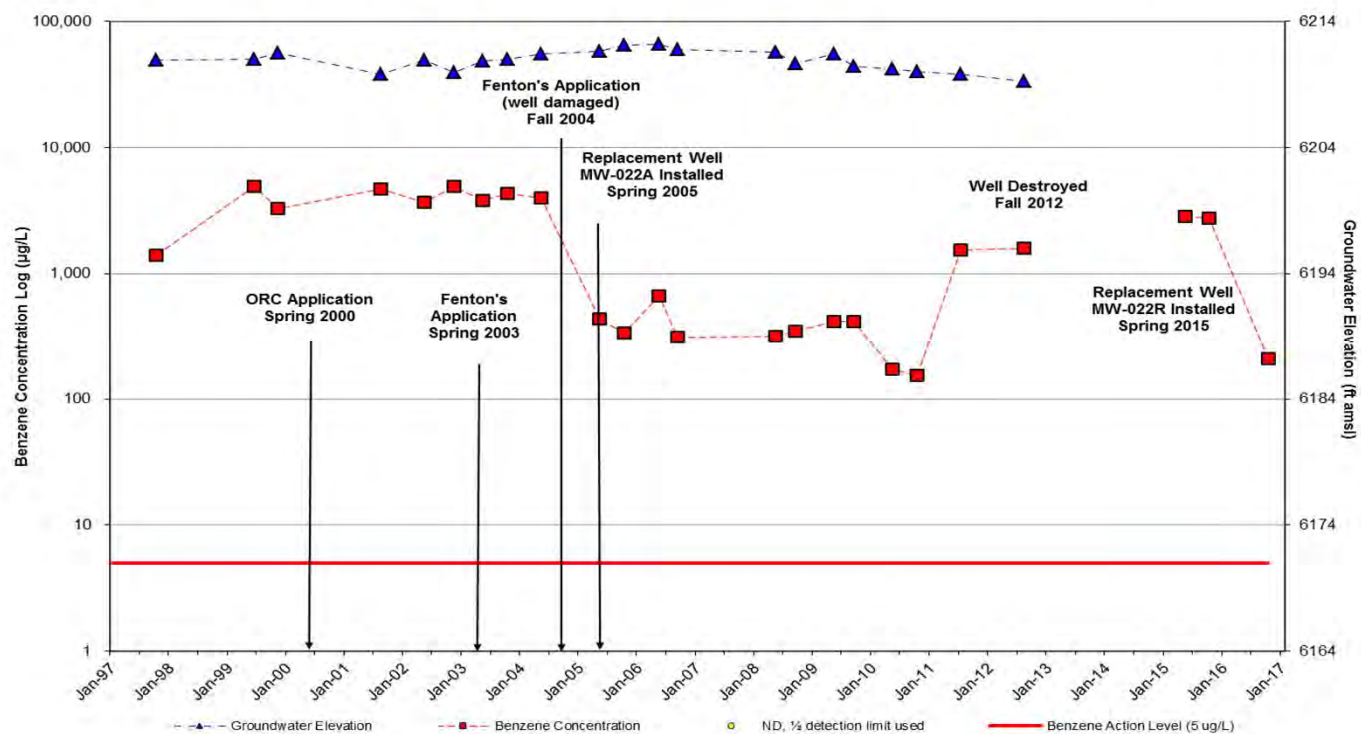
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Jackson, WY

Trend Analysis for MW-021 Teton Texaco Site, 1997-2016

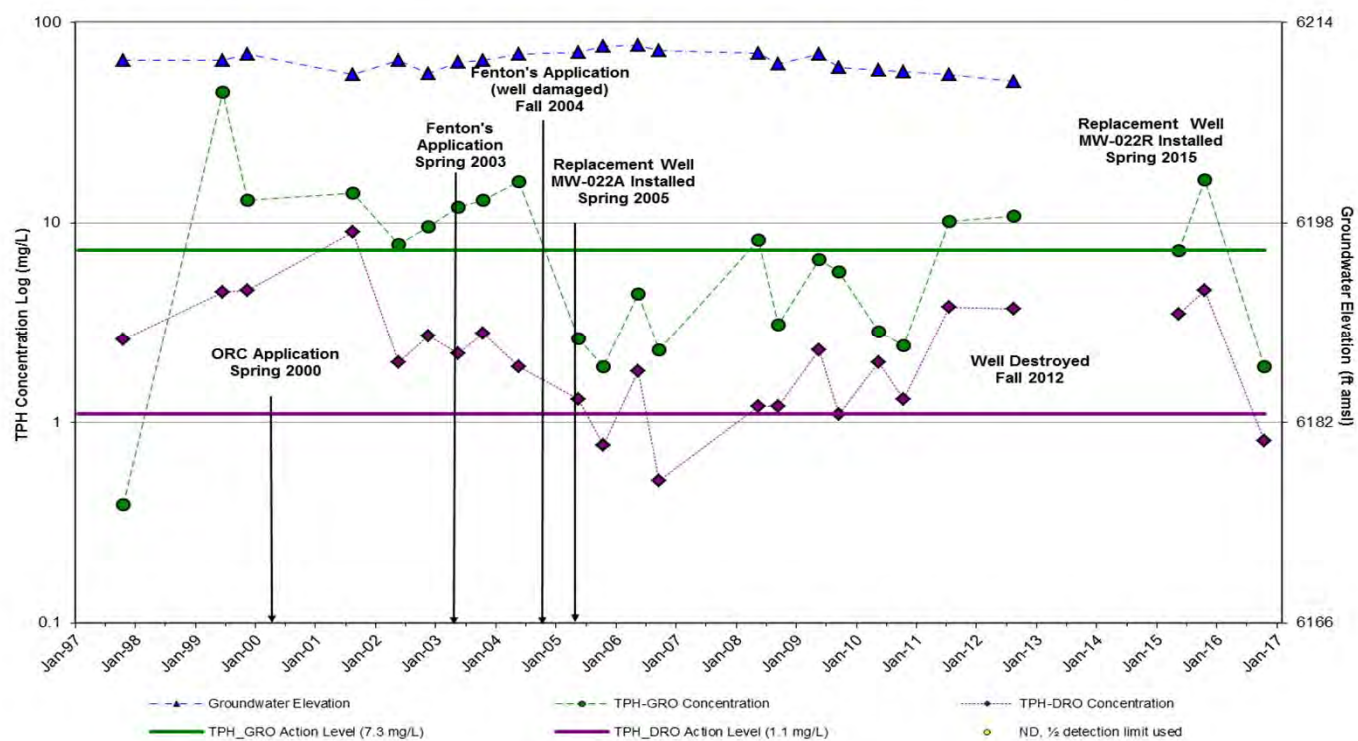
Chart 7-3

URS

MW-022/MW-022A/MW-22R Benzene Concentrations and Groundwater Elevations



MW-022/MW-022A/MW-022R TPH Concentrations and Groundwater Elevations



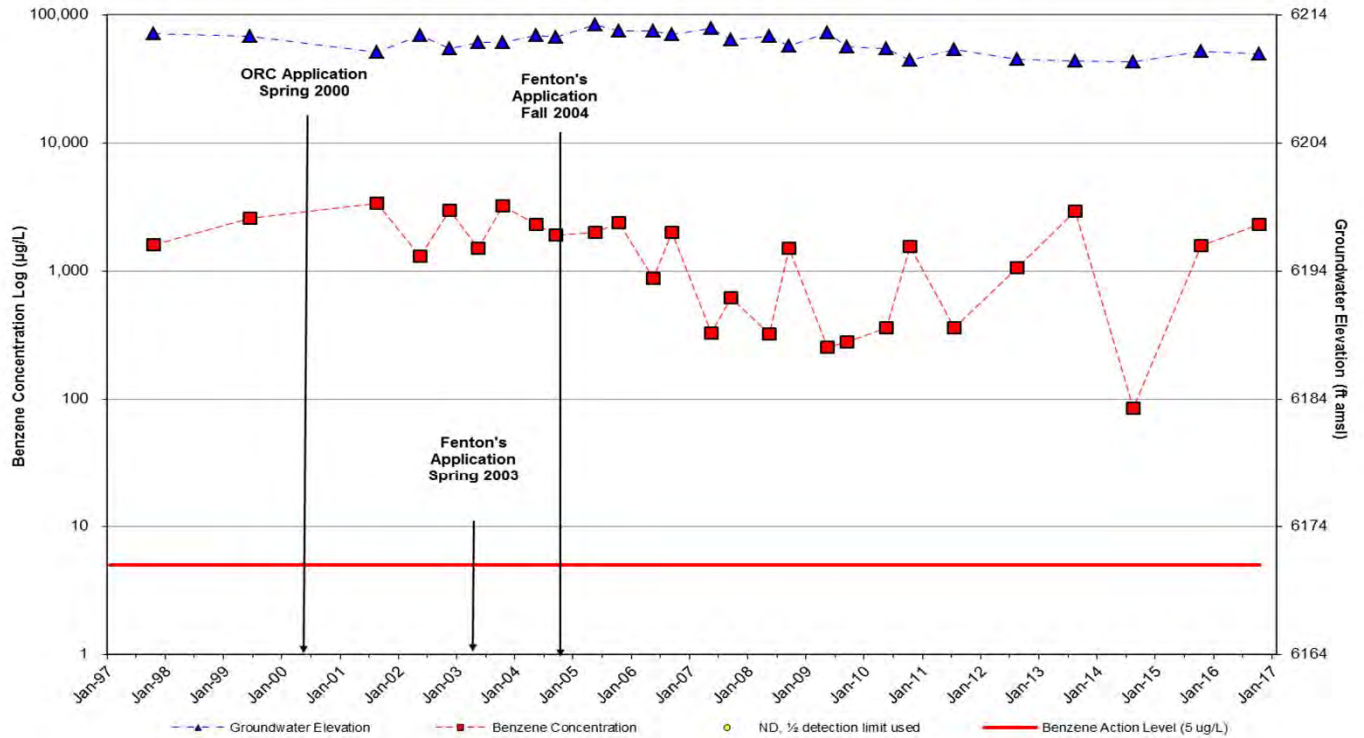
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Trend Analysis for MW-022/022A/022R Teton Texaco Site,
1997-2016

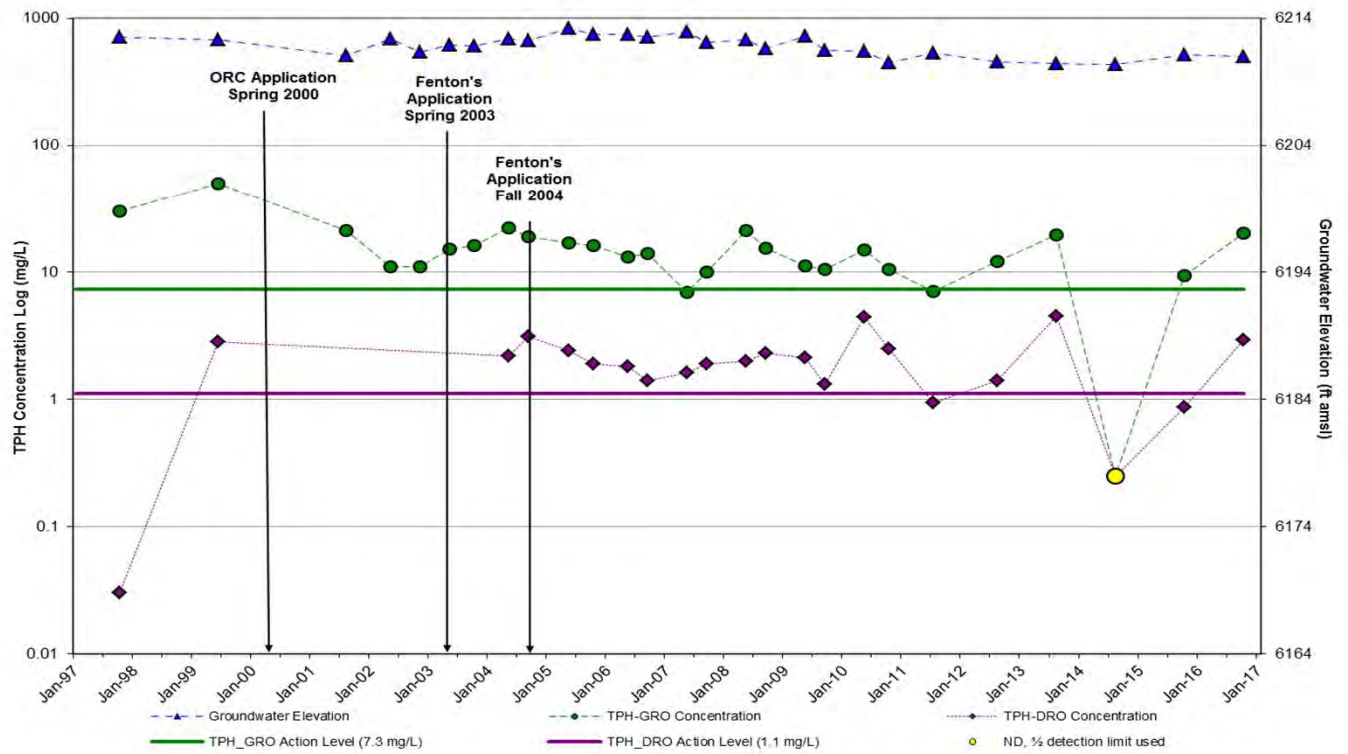
Chart 7-4

URS

MW-025 Benzene Concentrations and Groundwater Elevations



MW-025 TPH Concentrations and Groundwater Elevations



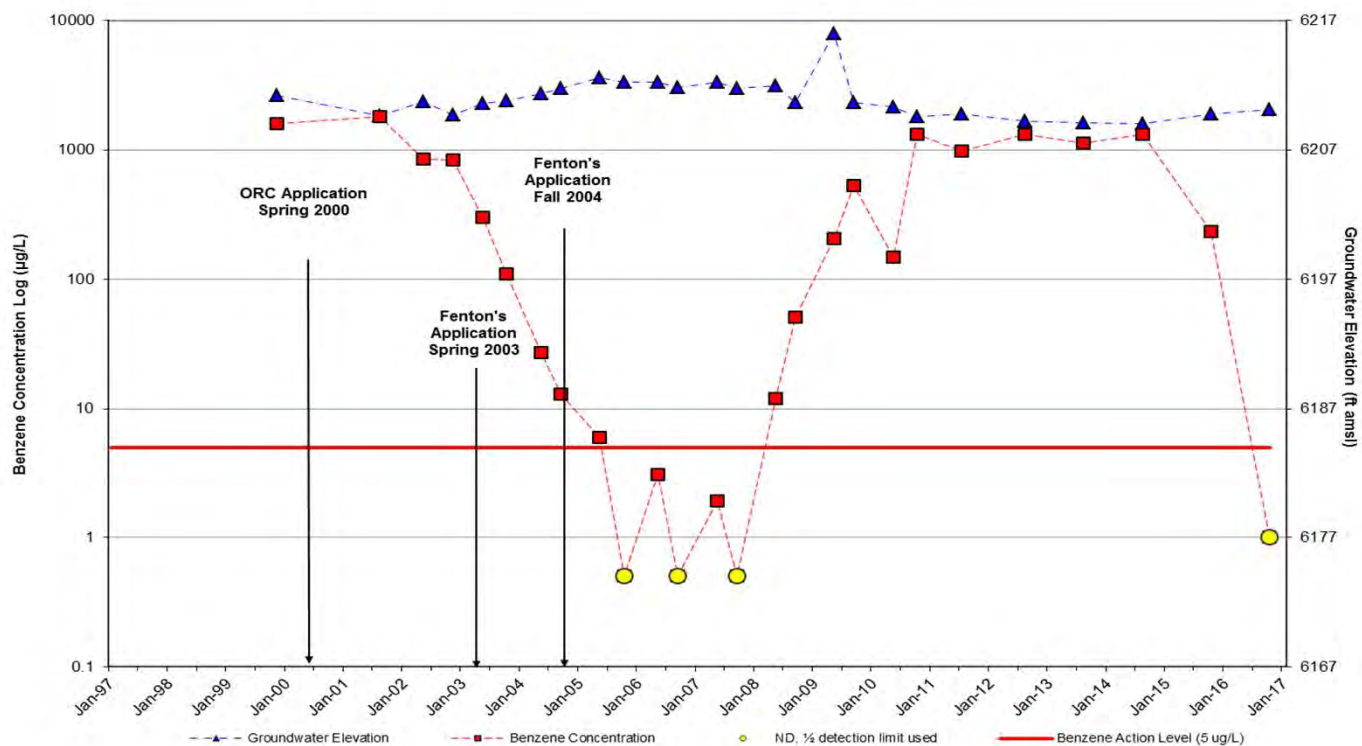
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Trend Analysis for MW-025 Teton Texaco Site, 1997-2016

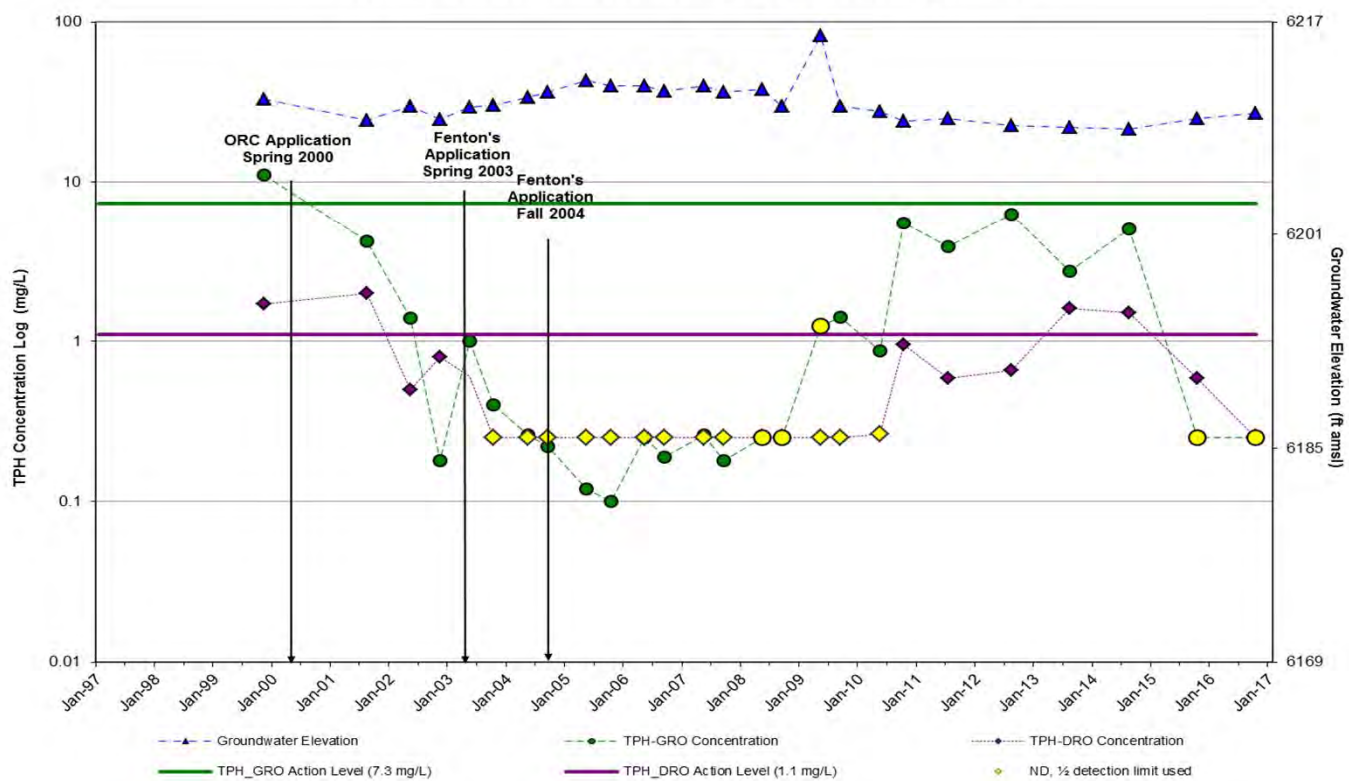
Chart 7-5

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MW-300 Benzene Concentrations and Groundwater Elevations



MW-300 TPH Concentrations and Groundwater Elevations



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Trend Analysis for MW-300 Teton Texaco Site, 1997-2016

Chart 7-6

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