

Appendix A

Permits and Approval



MICHELLE LUJAN GRISHAM
GOVERNOR

JAMES C. KENNEY
CABINET SECRETARY

January 10, 2022

Diane Agnew
Albuquerque Bernalillo Co. Water Utility Authority
PO Box 568
Albuquerque, New Mexico 87103

RE: Approval of Work Plan/Sampling Analysis Plan for Data Gap Monitoring Well Installation (SAP 21-F2298-STB)

Dear Diane Agnew:

The revised Work Plan/Sampling Analysis Plan for the referenced project that was created by Intera were received on January 6th, 2022. The documents have been reviewed by the New Mexico Environment Department Construction Programs Bureau (NMED-CPB). The documents meet the language of the grant and the project may move forward.

Please note that the review of these plans and specifications is only for compliance with contractual requirements of the applicable funding source or sources. The technical integrity, feasibility, or cost effectiveness of the project have not been evaluated. Review of this plan does not relieve the owner or engineer of legal responsibilities for the overall integrity of the project, adequacy of the design, or compliance with all applicable regulations. The NMED is not responsible for increased costs resulting from defects in the plans, specifications, or other contract documents.

Should you have any question or comments, contact Eric Gartner at 505-670-3643 or e-mail at eric.gartner@state.nm.us

Sincerely,

Eric Gartner
Project Manager

cc: Marta Ortiz (ABCWUA)

SCIENCE | INNOVATION | COLLABORATION | COMPLIANCE



Department of Municipal Development Construction Coordination Section

Office (505) 924-3400

Excavation and Temporary Traffic Control Permit Application

Send completed form and supporting documents to dmdccs@cabq.gov at least fourteen (14) calendar days in advance. Incomplete forms or early start dates will be rejected

1. Applicant Name: Joseph Tracy (INTERA) Date: 12/14/2021
2. Applicant Phone Number: (505) 301-1134 Applicant Email: jtracy@intera.com
3. Contracting Company Name: INTERA Incorporated
4. Work Site Address/Location Description: INTERA will make one (1) excavation in Indiana Street SE, just south of Kathryn Avenue SE (northern extent of the KAFB BFF groundwater plume. The excavation includes an approximate 8-inch diameter excavation to install one (1) 3-inch diameter monitoring well in the City of Albuquerque right-of-way property.
5. Start Date: January 24, 2022 End Date: March 18, 2022
6. Description of Work Activity/Closure: INTERA will provide oversight of a subcontracted, licensed well drilling company who will perform the drilling of the location detailed in item 4 above using a truck-mounted, sonic drilling rig. It is anticipated the boring location will be 8-inches in diameter and completed to a depth of 605 feet below grade. After calling in a standard utility locate with New Mexico 811, the initial five (5) feet below grade will be cleared for utilities using an air knife. An end of road closure will be required for the duration of well drilling, installation, and development for approximately six weeks.
7. Preferred Closure Time Frame (circle one): 6AM/7AM to 10PM, 9AM to 4PM Continuous
Until Complete (Open Excavation/Concrete Curing), Night Work (9PM to 6AM).
8. Facility Owner: (circle one) City, Water Authority, NMGAS, PNM, Century Link, Comcast, Other: _____
 - a. Barricade Company: (circle one) Advantage Barricade, Highway Supply, Southwest Safety, Other: _____
 - b. Work Zone Dimension: Length(ft.): 80 Width (ft.) 20
 - c. Striped Bike Lane Closure: Yes / No
 - d. Sidewalk Closure: Yes / No
 - e. Multi-Use Path Closure: Yes / No
9. Road pavement cut: Yes / No Dimension: 2 ft x 2 ft, 4-inch thick pad
10. Sidewalk construction: Yes / No Dimension: _____
11. Wheelchair ramp construction: Yes / No Quantity: _____
12. Landscape Impact in ROW?: Yes / No Dimension: _____

13. Drive pad construction: Yes / No Quantity: _____
14. Curb Cut (*include approved site plan*): Yes / No Quantity: _____
15. Curb/Valley Gutter Construction: Yes / No Length (ft.): _____
16. Building Permit Number: _____ (Approval Date) _____
17. City Work Order Number: _____ (Approval Date) _____
18. City or NMDOT funded: Yes / No Project Name: WUABFFMW01 Data Gap Well

Notes to Applicants

1. Issuance of this Temporary Traffic Control Permit (TTCP) is conditional on compliance with the following items, and may be revoked for any reason deemed appropriate by the City of Albuquerque. Any applicant who violates any provision of the "Street Excavation and Barricading Ordinance of the City of Albuquerque, New Mexico (6-5-2-1)" may be subject to suspension of the privilege of acquiring excavation permits for up to 365 days and a \$500 fee.
2. ALL excavation activities must be inspected by the Construction Coordination Section. Call 924-3416 and schedule an inspection when the site is ready for paving at least one (1) day prior to the scheduled date of pour/paving operation.
3. If this work/activity impacts a major road (i.e. road striping exists), a Traffic Control Plan (TCP) drawn by a licensed barricade company shall be submitted with this application. A TCP is not required for residential streets (i.e. no road striping, speed 25 MPH or less).
4. New curb cuts require a site plan approved by the Planning Department - Transportation Development Section, (505) 924-3991, 1st floor of Plaza Del Sol.
5. Traffic control devices must be placed near the permitted work area(s) to give adequate warning to vehicular and pedestrian traffic all in accordance with the following:
 - a. Standards and requirements set forth in the MUTCD, latest edition.
 - b. Sections 19, 1200, and 2800 of the City of Albuquerque Standard Specifications for Public Work Construction.
 - c. The City of Albuquerque Traffic Code, latest edition.
 - d. The City of Albuquerque Code of Ordinance, Section 6-5-2-1.
6. The City of Albuquerque, Construction Coordination Section (CCS) reserves the right to have traffic control devices adjusted in the field in the interest of public safety. The traffic control plan (TCP) shall be updated and resubmitted to CCS showing any modifications the following business day. CCS shall be notified in writing, 48 hours prior to any traffic control changes made by the contractor.

7. A safe ADA compliant pedestrian and MUTCD compliant bike path/route shall be maintained. Pedestrian and bike path/route detours shall be shown on the TCP. If pedestrians and bicyclists are not impacted, it must be stated on the TCP.
8. Contractor may not create inadequate sight distance with vehicles, construction equipment, or temporary traffic control devices.
9. The CONTRACTOR shall notify ALL businesses, residents, and public facilities directly affected by the street and/or lane closure with a printed flyer at least two days prior to closure (per Section 1200.5.3 of the COA Standard Specifications for Public Works Construction), and must comply with all other requirements of Section 1200.5.
REMINDER: New Mexico State Law requires excavators to contact NM ONE-CALL two (2) working days prior to excavating.

CONTACTS FOR STREET AND LANE CLOSURES

APS Transportation: 880-3989

Aviation: 244-7700

Cultural Services: 768-3556

Emergency Management: 833-7393

Fire Department 768-9300

Parks and Recreation 768-5300

Police Department 768-2200

Solid Waste: 761-8100

Street Lights: 857-8689

Street Signs: 857-8693

Traffic Signals: 857-8035

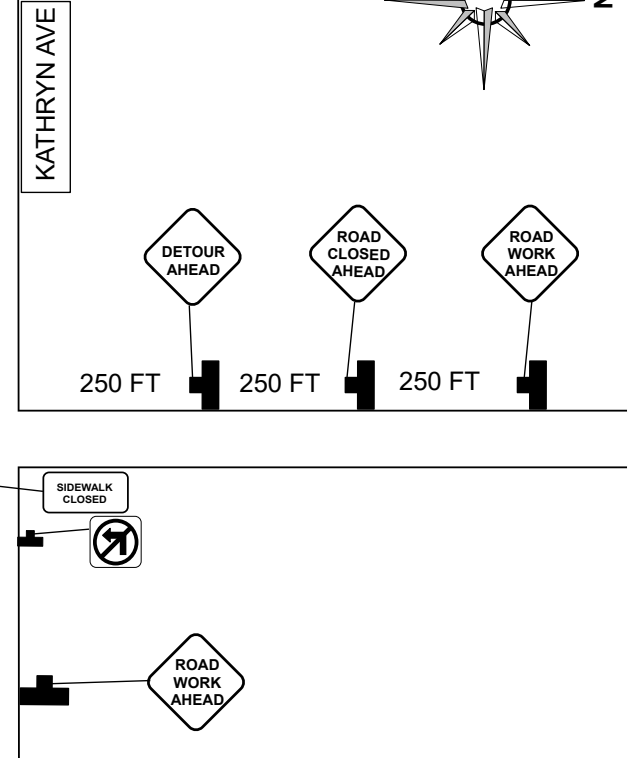
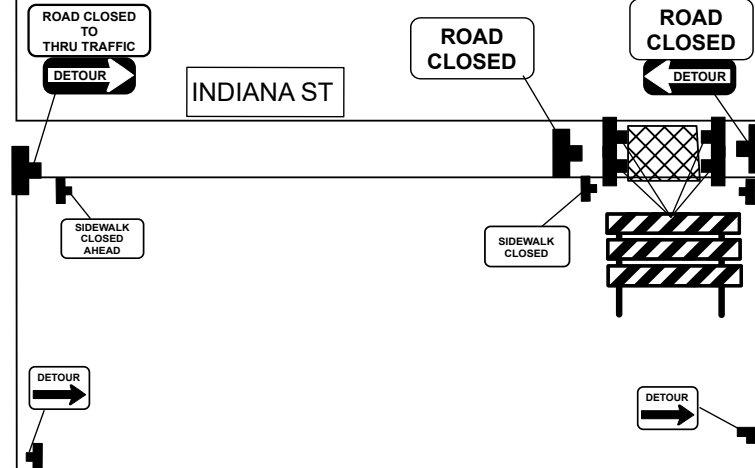
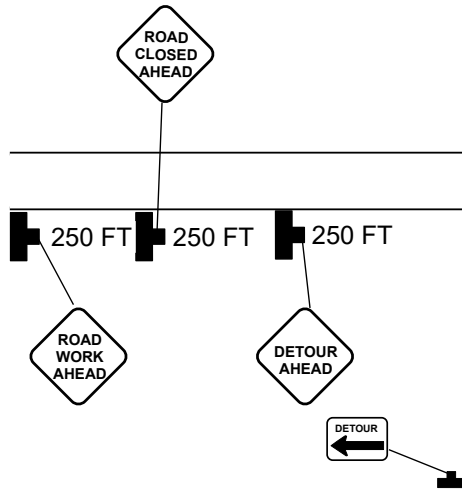
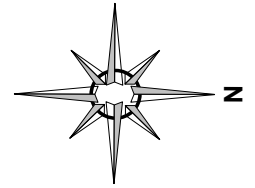
Transit: 724-3100

For More Information contact the Construction Coordination Section 924-3400 or visit our website at the address below:

<https://www.cabq.gov/municipaldevelopment/architects-engineers-contractors/construction-services>



ALBUQUERQUE 873-0044 FAX 873-0088
 SANTA FE 424-3337 FAX 424-3339
 FARMINGTON 324-0044 FAX 564-3001



ANDERSON AVE

KENTUCKY ST



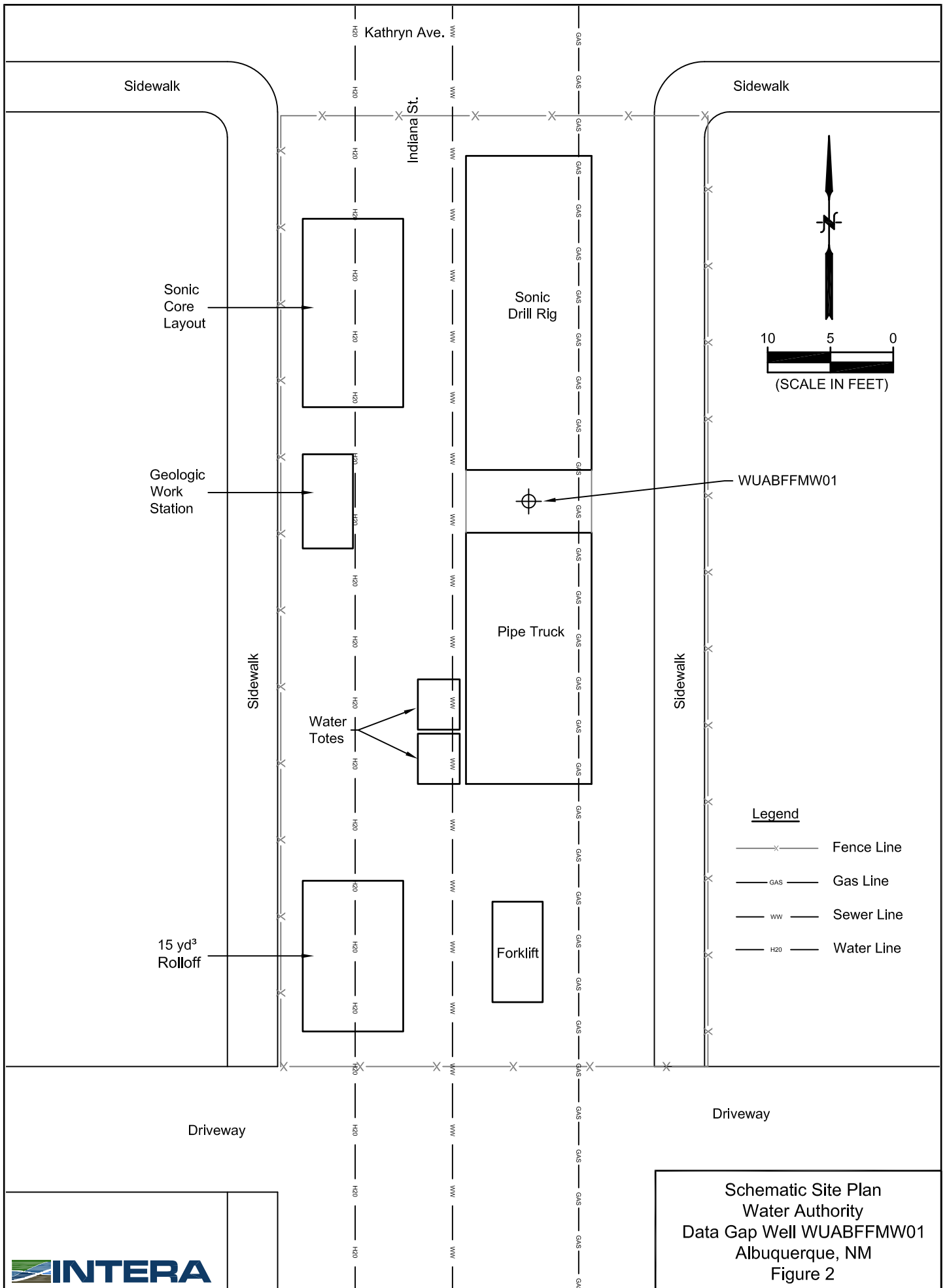
Legend

 Work Area

Date: 12/13/2021 **Author:** DARRELL ASHLEY **Project:** INTERA
OWNER: CITY OF ALBUQUERQUE **DURATION:** 30 DAYS

Comments:

- 1) DRAWING NOT TO SCALE
- 2) POSTED SPEED LIMIT 30 MPH
- 3) 36" SIGNS USED WITH FLAGS & SANDBAGS
- 4) WORK HOURS 0800-1600



Schematic Site Plan
 Water Authority
 Data Gap Well WUABFFMW01
 Albuquerque, NM
 Figure 2





**City of Albuquerque
DMD - Construction Services Division**

P.O. Box 1293, 600 2nd St NW
Room 800, 8th Floor, Plaza Del Sol
Albuquerque, NM 87102
Tel. No: (505) 924-3400
www.cabq.gov/construction
Permit Payments: payments.cabq.gov

PAYMENT TYPE 300
Permit No : **2021044421EXC**
Permit Status : Approved
12/16/2021

Excavation (FUND 300)

Address:	1 INDIANA	Applied Date	12/15/2021
Application Number	059279	Issued Date	12/15/2021
Activity Type	Excavation (FUND 300)	Start Date	01/24/2022
		End Date	03/18/2022
Applicant	INTERA INC. - Joseph J. Tracy		
Applicant Address	2440 Louisiana Blvd NE, 7th Floor Albuquerque NM 87110		
Applicant Phone	(505)246-1600		
Barricading Company	Southwest Safety Services Lic. (505)873-0044 dispatch@swsafetyservices.com		
	128 Llano Del Sur SE Albuquerque NM 87105-301		
Prime Contractor	INTERA INCORPORATED Lic. 87101 (505)730-7372 LDalton@intera.com		
	6000 UPTOWN BLVD NE SUITE 220 ALBUQUERQUE NM 87110		
Location Description	INDIANA From KATHRYN To ANDERSON		
Job Description	Install Ground Water Monitoring Well		

Fee Table

Fees:	\$210.00
Payments:	\$210.00
Extend Credit:	\$0.00
Balance Due:	\$0.00

Fee Detail

Fee Name	Unit	Amount
304:425009 Residential Street Closure (\$21.00 per day)	8.00	\$168.00
300:425008 Excavation (\$42.00 for every 660')	1.00	\$42.00

Transaction Detail

Date	Transaction Type	Method	Amount
12/16/2021	Payment of Balance Due	CreditCard	\$210.00

Conditions

Total closure of Indiana St. on the south side of Kathryn Ave.

Contractor must coordinate with, and maintain access to, affected businesses/residents; Schools; emergency medical services; Impacted City Services listed below.

- TRAFFIC ENGINEERING (SIGNALS) - Alfred Flores 505-235-4382
- ABQ RIDE (TRANSIT) - Ralph Baca 505-206-7004 or Rolando Suarez 505-205-3444
- SOLID WASTE TRASH PICKUP - Herman Gallegos 505-761-8125
- PARKING - 505-924-3950

Work zone SHALL have continuous construction activity. When construction activity stops, the closure SHALL be removed within one hour. If closure is to remain setup due to open excavation or concrete curing; contractor SHALL place applicable signage (e.g. CONCRETE CURING or OPEN EXCAVATION). Additionally, for continuous closures (24 Hours/Day), the contractor SHALL ensure the work zone contains continuous construction activity between 6 A.M. and 10 P.M. (7 A.M. and 10 P.M. during winter months).



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PAYMENT TYPE 300
Permit No : **2021044421EXC**
Permit Status : Approved
12/16/2021

- The Contractor may not violate MUTCD, COA Specifications, or Ordinance.
- May not turn through traffic split/shift.
- Must maintain ADA compliance at all times.
- May not detour arterial traffic to a residential road.
- May not place channelizing devices in travelled way without a properly designed lane closure.
- May not setup multiple lane/street closures unless shown concurrently on TCP.
- May not create inadequate sight-distance with vehicles and/or equipment.
- May not leave open excavation unattended and/or unprotected.
- Construction equipment outside of the work zone SHALL be protected by a flagman at all times.
- Contractor may not store materials and/or equipment within 15 feet of a travelled lane.

Your construction activity may impact private and/or public maintained landscaping which may have non-spotted underground landscape utilities within the public right-of-way (ROW). You are obligated to notify the responsible party of your activity and potentially coordinate any unspotted underground landscape utilities. You can contact the Office of Neighborhood Coordination (ONC), at (505) 768-3334 or onc@cabq.gov, to determine the point-of-contact for a specific Home Owners Association (HOA). If the landscaping is not maintained by a HOA, you will need to contact the adjacent property owner or property management agency. Please note, public landscaping and its associated infrastructure within the public ROW is maintained by the Solid Waste Department/Clean City Division (505) 857-8060.

PERMIT PAYMENTS CAN BE MADE AT <https://webepay.cabq.gov/icart/>

INSPECTION REQUIRED!!!

AN EXCAVATION INSPECTION IS REQUIRED FOR THIS PERMIT PRIOR TO ASPHALT OR CONCRETE PAVING. Please email DMDinspections@cabq.gov or call 924-3416 and request an inspection. The excavation site must be prepped and ready for asphalt or concrete paving at the time of inspection. Please reference the address(s) or location description, permit number, date of inspection, AM or PM inspection, and a valid contact number.
THE SITE SHALL NOT BE PAVED UNTIL THE INSPECTOR SENDS AN APPROVAL EMAIL TO THE APPLICANT.

Contractor may not leave open excavation unattended

Construction permitted between 6AM and 10PM. Closures are continuous until construction is complete

DROP OFF REQUIRMENT FOR EXCAVATED SITES

A maximum 1.5 in. vertical drop-off between adjacent surfaces will be allowed at the centerline, or lane lines without treatment. When the drop-off is greater than 1.5 in., a fillet with a slope of 6:1 or flatter SHALL be provided or the site SHALL be completely backfilled/platted to the street pavement surface during non-working hours. The work shall be scheduled to result in sites being prepped and paved on the same day. At the discretion of the engineer, concrete barriers and shoring may be required for excavated sites which are adjacent to the travelled lanes. This applies only to street cuts and curb and gutter replacement. Excavated sites behind the curb (or edge of pavement when curb and gutter does not exist) SHALL be protected at all times to avoid harm to the public.

Inspections

Item	Description	Permit	Date	Action	Inspector
1	Barricading	2021044421EXC	2022-01-26 00:00:00.0	Request for Inspection	E38707
1	Barricading	2021044421EXC	2022-02-02 00:00:00.0	Request for Inspection	E38707
1	Barricading	2021044421EXC	2022-02-09 00:00:00.0	Request for Inspection	E38707



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1	Barricading	2021044421EXC	2022-02-23 00:00:00.0	Request for Inspection	E38707
1	Barricading	2021044421EXC	2022-03-02 00:00:00.0	Request for Inspection	E38707
1	Barricading	2021044421EXC	2022-03-08 00:00:00.0	Request for Inspection	E38707
2	Excavation	2021044421EXC	2022-03-18 00:00:00.0	Request for Inspection	E38707



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03/24/2022

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Application Number	059279	Issued Date	12/15/2021
Activity Type	Excavation (FUND 300)	Start Date	01/24/2022
		End Date	04/29/2022
Applicant	INTERA INC. - Joseph J. Tracy		
Applicant Address	2440 Louisiana Blvd NE, 7th Floor Albuquerque NM 87110		
Applicant Phone	(505)246-1600		
Barricading Company	Southwest Safety Services Lic. (505)873-0044 dispatch@swsafetyservices.com		
	128 Llano Del Sur SE Albuquerque NM 87105-301		
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	6000 UPTOWN BLVD NE SUITE 220 ALBUQUERQUE NM 87110		
Location Description	INDIANA From KATHRYN To ANDERSON		
Job Description	Install Ground Water Monitoring Well		

Fee Table

Fees:	\$1,050.00
Payments:	\$210.00
Extend Credit:	\$0.00
Balance Due:	\$840.00

Fee Detail

Fee Name	Unit	Amount
304:425009 Residential Street Closure (\$21.00 per day)	48.00	\$1,008.00
300:425008 Excavation (\$42.00 for every 660')	1.00	\$42.00

Transaction Detail

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Inspections

Item	Description	Permit	Date	Action	Inspector
1	Barricading Out of office. Cancelled	2021044421EXC	2022-01-26 00:00:00.0	Cancelled	E29984
1	Barricading PASSED Pending corrective actions for the following, at time of inspection: ?Sign indicates ramp closed ahead instead of road	2021044421EXC	2022-02-02 13:30:00.0	Passed Barricade Inspection	E38707



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PAYMENT TYPE 300
Permit No : **2021044421EXC**
Permit Status : Approved
03/24/2022

Item	Description	Permit	Date	Action	Inspector
	closed ahead.(Image 2) Email sent to Contractor and SWS to correct advanced warning sign.				
1	Barricading	2021044421EXC	2022-02-09 11:15:00.0	Passed Barricade Inspection	E38707
1	Barricading Total closure of Indiana St. on the south side of Kathryn Ave. Detour in place.	2021044421EXC	2022-02-16 10:05:00.0	Passed Barricade Inspection	E38452
1	Barricading	2021044421EXC	2022-03-02 13:50:00.0	Passed Barricade Inspection	E38707
1	Barricading passed, Pending corrective action. Missing detour with left arrow on SW corner of Kentucky and Anderson. Emailed contractor to resolve issue.	2021044421EXC	2022-03-08 12:55:00.0	Passed Barricade Inspection	E38707
2	Excavation Last day of permit - Barricades on site, work in progress. Sent applicant on email with last day notification	2021044421EXC	2022-03-18 08:35:00.0	Not Ready for Inspection	E41129
2	Excavation	2021044421EXC	2022-04-29 00:00:00.0	Request for Inspection	E41129

Joseph J. Tracy

From: Valdez, Joseph A. <javaldez@cabq.gov>
Sent: Wednesday, April 6, 2022 2:27 PM
To: Joseph J. Tracy
Cc: Lee Dalton
Subject: Excavation Inspection (2021044421EXC-PASSED)
Attachments: Green Tag.png

Dear INTERA INC,

A COA public right-of-way excavation inspection was performed at **INDIANA From KATHRYN To ANDERSON--2021044421EXC** on 4/6/2022 at 2:20 P.M.. Below are your inspection results:

- Inspected Infrastructure
 - City of Albuquerque ROW Street well cover concrete collar.
- PASSED
 - Please respond to this email with the associated haul tickets within 24 hours of paving the referenced site.
- Corrections
 - None.

This inspection was based on the submitted application, approved construction drawings, approved curb cut site plan, the City of Albuquerque Standard Specifications, and current site conditions. Please contact me if you require additional information.

IMPORTANT NOTE: The contractor is responsible for scheduling a SEPERATE pre-pour and post-pour inspection with the responsible Engineer of Record, Architect, or Designer.

Link to the COA Standard Drawings and Specifications: <https://www.cabq.gov/planning/development-review-services/design-review-construction-forms>

Thank you,



Joseph Valdez
Construction Inspector I

O 505.924.3400
M 505.3196284
F 505.924.3408
cabq.gov/dmd

Department of Municipal Development



Sidewalk, Drivepad, Curb & Gutter,
Wheel Chair Ramp & Asphalt Inspection

APPROVED

File No. _____

NEW MEXICO OFFICE OF THE STATE ENGINEER



WR-07 APPLICATION FOR PERMIT TO DRILL A WELL WITH NO WATER RIGHT

(check applicable box):

For fees, see State Engineer website: <http://www.ose.state.nm.us>

APPLICANT
★
COPY

Purpose:	<input type="checkbox"/> Pollution Control And/Or Recovery	<input type="checkbox"/> Ground Source Heat Pump
<input type="checkbox"/> Exploratory Well (Pump test)	<input type="checkbox"/> Construction Site/Public Works Dewatering	<input type="checkbox"/> Other(Describe):
<input checked="" type="checkbox"/> Monitoring Well	<input type="checkbox"/> Mine Dewatering	

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.

Temporary Request - Requested Start Date: _____ Requested End Date: _____

Plugging Plan of Operations Submitted? Yes No

1. APPLICANT(S)

Name: Albuquerque Bernalillo County Water Utility Authority (ABCWUA)	Name: INTERA
Contact or Agent: _____ check here if Agent <input type="checkbox"/>	Contact or Agent: _____ check here if Agent <input checked="" type="checkbox"/>
Diane Agnew	Joseph Tracy
Mailing Address: PO Box 568	Mailing Address: 2440 Louisiana Boulevard NE, Suite 700
City: Albuquerque	City: Albuquerque
State: _____ Zip Code: _____ New Mexico 87103	State: _____ Zip Code: _____ New Mexico 87110
Phone: 505-289-3008 <input type="checkbox"/> Home <input type="checkbox"/> Cell Phone (Work):	Phone: 505-246-1600 <input type="checkbox"/> Home <input type="checkbox"/> Cell Phone (Work):
E-mail (optional): dagnew@abcwua.org	E-mail (optional): jtracy@intera.com

FOR OSE INTERNAL USE Application for Permit, Form WR-07, Rev 11/17/16

File No.:	Trn. No.:	Receipt No.:
Trans Description (optional):		
Sub-Basin:	PCW/LOG Due Date:	

2. WELL(S) Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84). District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

NM State Plane (NAD83) (Feet)
 UTM (NAD83) (Meters)
 Lat/Long (WGS84) (to the nearest 1/10th of second)

NM West Zone
 Zone 12N
 NM East Zone
 Zone 13N
 NM Central Zone

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (Quarters or Halves , Section, Township, Range) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
WUABFFMW01	-106.570909 W	35.065297 N	NA

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)
 Additional well descriptions are attached: Yes No If yes, how many _____

Other description relating well to common landmarks, streets, or other:
 Proposed well is located on a public, Albuquerque city street just south of the intersection of Kathryn Ave SE and Indiana St. SE, in a location approved by the Water Authority; map attached below.

Well is on land owned by: Public

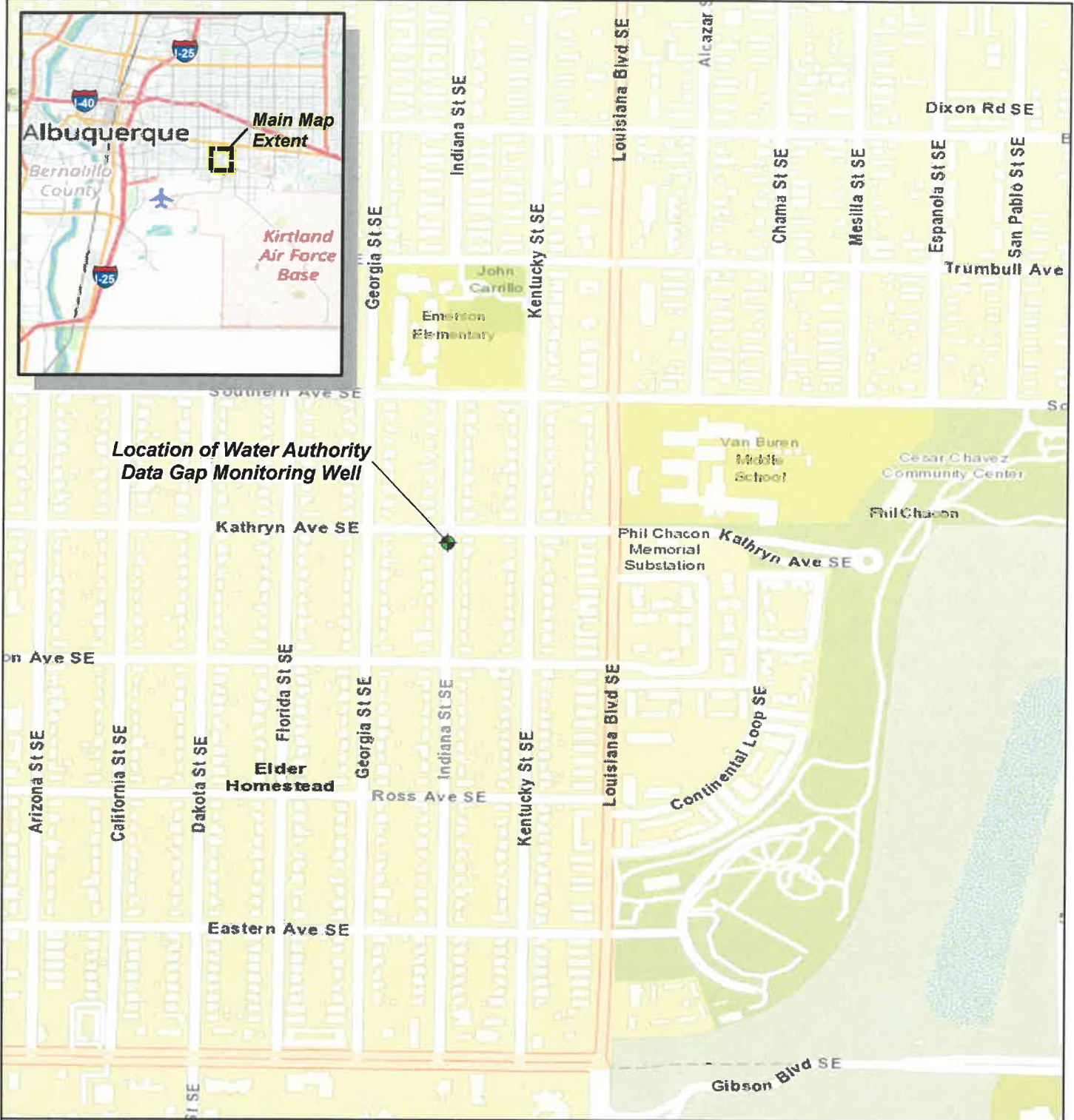
Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached? Yes No
 If yes, how many _____

Approximate depth of well (feet): 605	Outside diameter of well casing (inches): Nominal 3" di. sch 80 PVC
Driller Name: Cascade Drilling	Driller License Number: #WD-1664

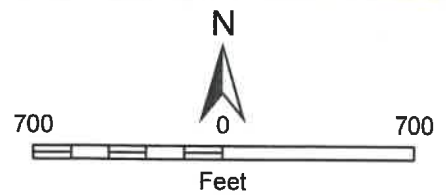
3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Additional notes for Section 2 below:
 See attached well location and well design schematic figures. In addition, to avoid damage to the newly installed well from heat of hydration, grouting will take place in a minimum of 3 lifts with an 8 hour curing time minimum between lifts required.

Purpose and schedule, as requested in Section 4 below:
 This groundwater monitoring well is needed at the KAFB BFF project site to address an outstanding data gap in the characterization of the EDB groundwater contamination plume. This well will be drilled and constructed to sample for EDB at depth in the northern extent of the plume. Data from this well will be used by the Water Authority and shared with the NMED and Air Force to inform their site conceptual model for EDB groundwater contamination. This data gap groundwater monitoring well will be monitored through the completion of remediation of the BFF project site.

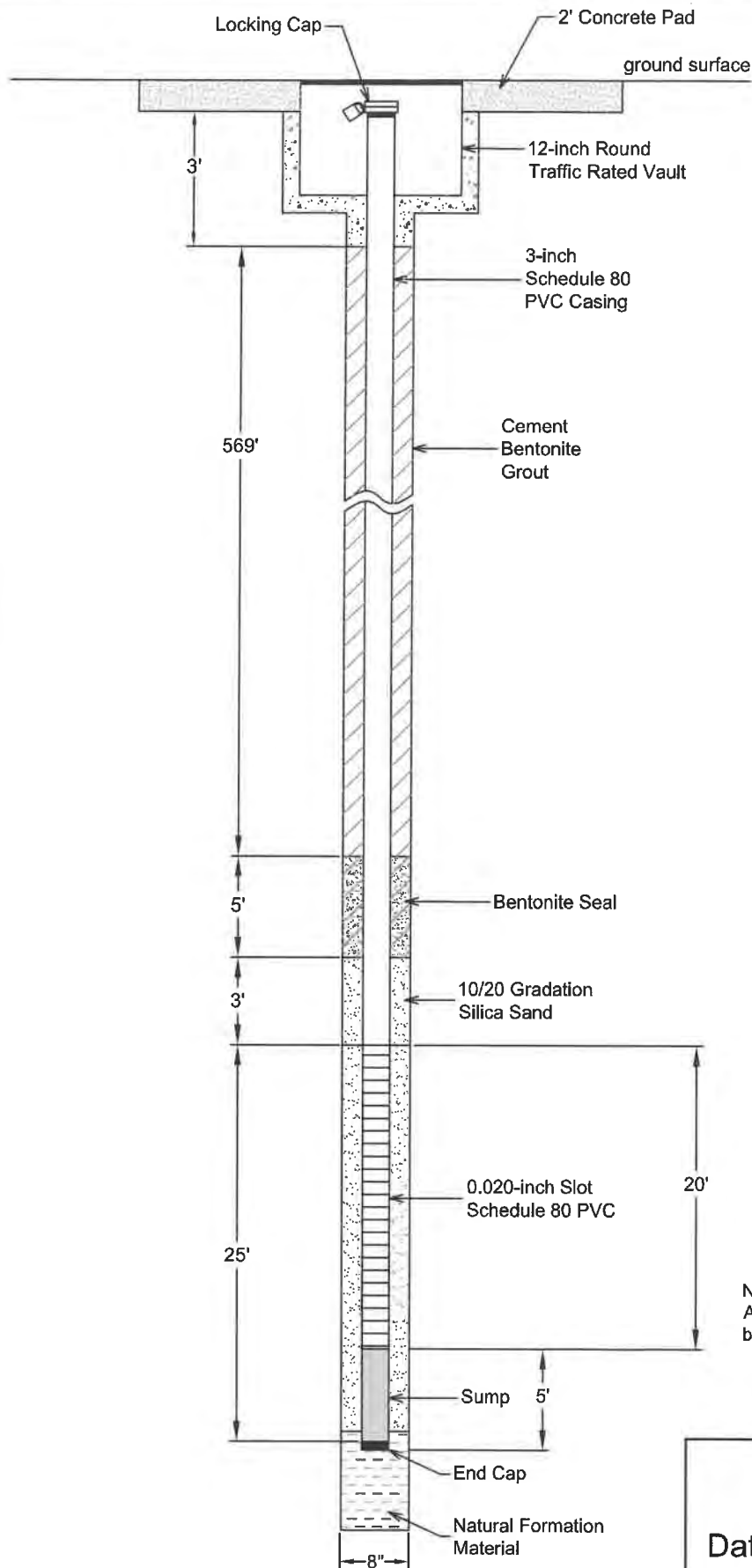


**Location of Water Authority
Data Gap Monitoring Well**



**WUABFFMW01 Location
Water Authority Data Gap Well
Bernalillo County, New Mexico**





NOTE:
Actual boring and well depth to be determined based on Lithologic and Geophysical logging

Schematic Well Diagram
Water Authority
Data Gap Well WUABFFMW01
Albuquerque, NM
Figure 3

Well TD approx. = 605' bgs
Boring TD approx. = 610' bgs

NOT TO SCALE





STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

DISTRICT I

John R. D'Antonio Jr, P.E.
STATE ENGINEER

5550 San Antonio Drive, NE
Albuquerque, NM 87109-4127
(505) 383-4000

December 21, 2021

File No.: RG-A0195

Permittee: Albuquerque Bernalillo County Water Utility Authority (ABCWUA)
c/o Diane Agnew
PO Box 568
Albuquerque, NM 87103

Agent: INTERA
c/o Joseph Tracy
2440 Louisiana Boulevard NE, Suite 700
Albuquerque, NM 87110

Greetings:

Enclosed is your accepted permit for monitoring wells RG-A0195-POD1, which has been approved in accordance with the attached Conditions of Approval.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ian Hewitt".

Ian Hewitt
Water Resource Professional

IH:ih
Enclosure as stated

Cc: WRAB

ACI-62807
\$5-

File No. **RG-A0195**



NEW MEXICO OFFICE OF THE STATE ENGINEER

**WR-07 APPLICATION FOR PERMIT TO DRILL
A WELL WITH NO WATER RIGHT**



(check applicable box):

For fees, see State Engineer website: <http://www.ose.state.nm.us/>

Purpose:	<input type="checkbox"/> Pollution Control And/Or Recovery	<input type="checkbox"/> Ground Source Heat Pump
<input type="checkbox"/> Exploratory Well (Pump test)	<input type="checkbox"/> Construction Site/Public Works Dewatering	<input type="checkbox"/> Other(Describe):
<input checked="" type="checkbox"/> Monitoring Well	<input type="checkbox"/> Mine Dewatering	

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.

Temporary Request - Requested Start Date: _____ Requested End Date: _____

Plugging Plan of Operations Submitted? Yes No

1. APPLICANT(S)

Name: Albuquerque Bernalillo County Water Utility Authority (ABCWUA)	Name: INTERA
Contact or Agent: check here if Agent <input type="checkbox"/> Diane Agnew	Contact or Agent: check here if Agent <input checked="" type="checkbox"/> Joseph Tracy
Mailing Address: PO Box 568	Mailing Address: 2440 Louisiana Boulevard NE, Suite 700
City: Albuquerque	City: Albuquerque
State: New Mexico Zip Code: 87103	State: New Mexico Zip Code: 87110
Phone: 505-289-3008 <input type="checkbox"/> Home <input type="checkbox"/> Cell Phone (Work):	Phone: 505-246-1600 <input type="checkbox"/> Home <input type="checkbox"/> Cell Phone (Work):
E-mail (optional): dagnew@abcwua.org	E-mail (optional): jtracy@intera.com

FOR OSE INTERNAL USE

Application for Permit, Form WR-07, Rev 11/17/16

File No.: RG-A0195	Tm. No.:	Receipt No.: 1-62807
Trans Description (optional):		
Sub-Basin:	PCW/LOG Due Date:	

2. WELL(S) Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84). District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

NM State Plane (NAD83) (Feet) UTM (NAD83) (Meters) Lat/Long (WGS84) (to the nearest 1/10th of second)
 NM West Zone Zone 12N
 NM East Zone Zone 13N
 NM Central Zone

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (Quarters or Halves, Section, Township, Range) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
WUABFFMW01	-106.570909 W	35.065297 N	NA

NOTE: if more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)
 Additional well descriptions are attached: Yes No If yes, how many _____

Other description relating well to common landmarks, streets, or other:
 Proposed well is located on a public, Albuquerque city street just south of the intersection of Kathryn Ave SE and Indiana St. SE, in a location approved by the Water Authority; map attached below.

Well is on land owned by: Public

Well Information: **NOTE: If more than one (1) well needs to be described, provide attachment.** Attached? Yes No
 If yes, how many _____

Approximate depth of well (feet): 605 Outside diameter of well casing (inches): Nominal 3" di. sch 80 PVC

Driller Name: Cascade Drilling Driller License Number: #WD-1664

STATE ENGINEERS OFFICE
 2021 DEC 10 AM 11:17

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

Additional notes for Section 2 below:
 See attached well location and well design schematic figures. In addition, to avoid damage to the newly installed well from heat of hydration, grouting will take place in a minimum of 3 lifts with an 8 hour curing time minimum between lifts required.

Purpose and schedule, as requested in Section 4 below:
 This groundwater monitoring well is needed at the KAFB BFF project site to address an outstanding data gap in the characterization of the EDB groundwater contamination plume. This well will be drilled and constructed to sample for EDB at depth in the northern extent of the plume. Data from this well will be used by the Water Authority and shared with the NMED and Air Force to inform their site conceptual model for EDB groundwater contamination. This data gap groundwater monitoring well will be monitored through the completion of remediation of the BFF project site.

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.:	Trm No.:
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4. SPECIFIC REQUIREMENTS: The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

<p>Exploratory: <input type="checkbox"/> Include a description of any proposed pump test, if applicable.</p>	<p>Pollution Control and/or Recovery: <input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following: <input type="checkbox"/> A description of the need for the pollution control or recovery operation. <input type="checkbox"/> The estimated maximum period of time for completion of the operation. <input type="checkbox"/> The annual diversion amount. <input type="checkbox"/> The annual consumptive use amount. <input type="checkbox"/> The maximum amount of water to be diverted and injected for the duration of the operation. <input type="checkbox"/> The method and place of discharge. <input type="checkbox"/> The method of measurement of water produced and discharged. <input type="checkbox"/> The source of water to be injected. <input type="checkbox"/> The method of measurement of water injected. <input type="checkbox"/> The characteristics of the aquifer. <input type="checkbox"/> The method of determining the resulting annual consumptive use of water and depletion from any related stream system. <input type="checkbox"/> Proof of any permit required from the New Mexico Environment Department. <input type="checkbox"/> An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.</p>	<p>Construction De-Watering: <input type="checkbox"/> Include a description of the proposed dewatering operation, <input type="checkbox"/> The estimated duration of the operation, <input type="checkbox"/> The maximum amount of water to be diverted, <input type="checkbox"/> A description of the need for the dewatering operation, and, <input type="checkbox"/> A description of how the diverted water will be disposed of.</p> <p>Ground Source Heat Pump: <input type="checkbox"/> Include a description of the geothermal heat exchange project, <input type="checkbox"/> The number of boreholes for the completed project and required depths. <input type="checkbox"/> The time frame for constructing the geothermal heat exchange project, and, <input type="checkbox"/> The duration of the project. <input type="checkbox"/> Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.</p>	<p>Mine De-Watering: <input type="checkbox"/> Include a plan for pollution control/recovery, that includes the following: <input type="checkbox"/> A description of the need for mine dewatering. <input type="checkbox"/> The estimated maximum period of time for completion of the operation. <input type="checkbox"/> The source(s) of the water to be diverted. <input type="checkbox"/> The geohydrologic characteristics of the aquifer(s). <input type="checkbox"/> The maximum amount of water to be diverted per annum. <input type="checkbox"/> The maximum amount of water to be diverted for the duration of the operation. <input type="checkbox"/> The quality of the water. <input type="checkbox"/> The method of measurement of water diverted. <input type="checkbox"/> The recharge of water to the aquifer. <input type="checkbox"/> Description of the estimated area of hydrologic effect of the project. <input type="checkbox"/> The method and place of discharge. <input type="checkbox"/> An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. <input type="checkbox"/> A description of the methods employed to estimate effects on surface water rights and underground water rights. <input type="checkbox"/> Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.</p>
<p>Monitoring: <input checked="" type="checkbox"/> Include the reason for the monitoring well, and, <input checked="" type="checkbox"/> The duration of the planned monitoring.</p>			

ACKNOWLEDGEMENT

I, We (name of applicant(s)), Diane Agnew

 Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Diane Agnew

 Applicant Signature

 Applicant Signature

ACTION OF THE STATE ENGINEER

This application is:

approved partially approved denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 21st day of December 20 21, for the State Engineer,

JOHN R. D'ANTONIO, JR. PE.
 STATE ENGINEER
 _____, State Engineer

By: [Signature]

 Signature

Ian Hewitt

 Print

Title: WRP II

 Print

STATE ENGINEER'S OFFICE
 2021 DEC 10 AM 11:17

FOR OSE INTERNAL USE

Application for Permit, Form WR-07

File No.:	Trn No.:
-----------	----------

**NEW MEXICO OFFICE OF THE STATE ENGINEER
 PERMIT TO DRILL A MONITORING WELL
 CONDITIONS OF APPROVAL**

This application is approved provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state; and further subject to the following conditions of approval:

Permittee: Albuquerque Bernalillo County Water Utility Authority (ABCWUA)
 c/o Diane Agnew
 PO Box 568
 Albuquerque, NM 87103

Permit Number: RG-A0195

Application File Date: December 10, 2021

Source: Groundwater

Wells: One (1) monitoring well under permit no. RG-A0195 on land owned by the City of Albuquerque located in the City of Albuquerque, Bernalillo County described as:

POD #	Well ID	Casing Inner Diameter (Inches)	Total Depth (Feet)	Longitude (WGS84)	Latitude (WGS84)
1	WUABF FMW01	3	605	-106.570909	35.065297

Purpose of Use: Groundwater sampling as part of KAFB BFF Project Site.

Place of Use: N/A

Amount of Water: N/A

1. No water shall be appropriated and beneficially used under this permit.
2. Wells RG-A0195-POD1 shall be drilled and constructed by a driller licensed in the State of New Mexico in accordance with 19.27.4 NMAC.
3. The Permittee is responsible for obtaining an access agreement.
4. Completed and properly executed Well Records on the form provided by the State Engineer shall be filed within 30 days after the wells are drilled.
5. Wells RG-A0195-POD1 shall be plugged upon completion of the permitted use, and a plugging report shall be filed with the State Engineer within 30 days after the wells are plugged.

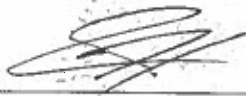
**NEW MEXICO OFFICE OF THE STATE ENGINEER
PERMIT TO DRILL A MONITORING WELL
CONDITIONS OF APPROVAL**

6. Wells RG-A0195-POD1 must be completed within one year of the approval date of this permit.
7. Pursuant to Section 72-8-1 NMSA, the permittee shall allow the state engineer and his representatives entry upon private property for the performance of their respective duties, including access to the wells for inspection and water level measurements.
8. The State Engineer retains jurisdiction over this permit.

Witness my hand and seal this 21st day of December, 2021

**John D'Antonio Jr., PE
State Engineer**

By: _____


Ian Hewitt
Water Resource Professional
District 1

ATTACHMENT A-PROJECT DESCRIPTION & DELIVERY PLAN

**NEW MEXICO ENVIRONMENT DEPARTMENT
CONSTRUCTION PROGRAMS BUREAU**

Name of Grantee: Albuquerque Bernalillo County Water Utility Author
 Capital Outlay Grant No.: SAP 21-F2298-STB
 Project Name: ALB-BERN CO WUA MONITOR WELL CONSTRUCT
 Grant Text: _____
 Project Description: _____

to plan, design, construct and test a groundwater monitoring well at Kirtland Air Force Base

INSTRUCTIONS: Please answer the questions below. If needed, please contact the NMED Project Manager with questions or to discuss Attachment A before returning the Grant Agreement.

Capital outlay grant funds will be used to pay for (check all that apply):	The estimated cost for each is:	The project schedule for each is (started by MM/YYYY, completed by MM/YYYYY):
A. ENGINEERING SERVICES <input checked="" type="checkbox"/> PLANNING <input checked="" type="checkbox"/> DESIGN <input type="checkbox"/> BIDDING & CONSTRUCTION PHASE SERVICES <input checked="" type="checkbox"/> B. CONSTRUCTION <input checked="" type="checkbox"/> C. EQUIPMENT PURCHASE <input checked="" type="checkbox"/> D. OTHER <u>Well test, Final Report</u>	A <u>\$42,125.00</u> <u>\$9,111.00</u> <u>N/A</u> B <u>\$310,150.80</u> C <u>\$35,107.16</u> D <u>\$53,501.50</u>	A <u>09/2021, 11/2021</u> <u>09/2021, 12/2021</u> <u>N/A</u> B <u>11/2021, 01/2022</u> C <u>11/2021, 01/2022</u> D <u>12/2021, 03/2022</u>

Will engineering services for the entire project exceed \$60,000 (Y/N)? Y

Has an engineer been hired (Y/N)? Y Please circle the procurement method: RFP, CES or direct hire less than \$60k.

Have any engineering studies, planning documents, or inspection reports been completed that define the project need and provide cost estimates (Y/N) N? If yes, please provide copies to NMED.

Are there other funds for the project (Y/N)? N If yes, what funds will be used? _____

X [Signature] Official Representative/Date

X **Eric Gartner** Digitally signed by Eric Gartner
 Date: 2021.10.12 15:27:51 -06'00'
 NMED Project Manager Approval/Date

Reminder: The Grantee must obligate 5% of the total grant funds within 6 months of the bond sale if funds come from severance tax bonds (STB) toward an NMED-approved contract for engineering/construction/equipment/other project expense.

**NMED ATTACHMENT B – NMENV TECHNICAL REQUIREMENTS
TO
STATE OF NEW MEXICO
CAPITAL APPROPRIATION FUND AGREEMENT**

ARTICLE 1 REVIEW

Upon execution of the agreement, the Grantee will follow the procedures listed below unless waived in writing by the New Mexico Environment Department (NMED) (payment may be withheld if any of these procedures are not followed by the Grantee).

- A. The Grantee must submit a detailed project description to NMED Construction Programs Bureau prior to committing to expenditures from these funds. The detailed description will be provided on the Attachment A form. The Grantee must submit copies to NMED of all executed contracts entered into by the Grantee prior to this agreement, that are related to the project, for review and, if appropriate, approval.
- B. If these grant funds are to be used for engineering and/or other professional services, the hiring process for engineering services and/or other professional services must be performed in compliance with the New Mexico Procurement Code [Sections 13-1-21 et seq. NMSA 1978]. If, for any one circumstance, engineering fees will exceed \$60,000, excluding gross receipt taxes, the Grantee is also required to contact the Professional Technical Advisory Board (PTAB) for assistance in the preparation of the RFP package. (PTAB: phone (505) 888-6161 and e-mail ptab@acecnm.org.)
- C. If these grant funds are to be used for engineering and/or other professional services, the Grantee must submit a copy of any engineering agreement and/or other professional services contract, or a letter certifying that the Grantee's staff will be used for design, to NMED for review **prior to** executing the agreement/contract or using Grantee's staff. The required engineering agreement format is the "Publicly Funded Project" form prepared by NMED and posted on the website at www.nmenv.state.nm.us/cpb/cpbtop.html.
- D. A preliminary engineering report (PER) or study by a registered New Mexico Professional Engineer may be required. The Grantee must submit the final PER and/or study to NMED for review and approval before preparation of plans and specifications. The purpose of the PER and/or study is to analyze and choose the most technically feasible and cost effective solution for the project. The PER must follow USDA RUS Bulletin 1780-2.
- E. Grantee agrees not to start the preparation of plans and specifications until NMED approval of the PER, study, or waiver of the report requirement has been received.
- F. If the grant funds are to be used for engineering design or for construction, the Grantee must submit all plans, specifications, and any addenda for this project (prepared by a registered New Mexico Professional Engineer) to NMED for review and approval **before** the project is advertised for construction bids.
- G. The Grantee must submit all work related to easements, rights-of-ways, other property rights, and financing provisions associated with the project to NMED for review **prior to** advertising for construction. A site certificate certifying that all necessary easements and/or property upon or through which the project is being constructed have been obtained must be submitted prior to the advertisement

for bid of the project. The Site Certificate must be signed by an attorney, engineer, surveyor, or title abstractor.

- H. The Grantee must submit the recommendation of award, certified bid tabulation, a copy of bid bond for the selected contractor and evidence of full project financing to NMED for review and approval **prior to** awarding the contract. Grantee shall not award the contract until NMED has concurred in writing with the award. Competitive bidding, in accordance with applicable state laws (including local wage determinations as provided for in Section 13-4-11 NMSA 1978), will be used for awarding construction contracts. Contracts will be awarded to the responsive, responsible bidder who submits the lowest acceptable bid, or as provided for by State Law.
- I. Following NMED approval of the proposed award, the Grantee will submit the notice of the award and the minutes of the meeting in which the award was made, the notice of a pre-construction conference, a copy of the executed construction contract documents (including payment and performance bonds), and the notice to contractor to proceed to NMED for review. The selected contractor will be required to post a performance and payment bond in accordance with requirements of Section 13-4-18 NMSA 1978.
- J. The selected contractor will submit a construction schedule to the Grantee and NMED if requested at the pre-construction conference with a copy to NMED. The Grantee will submit all modifications to plans and contract by change orders to the NMED project manager promptly for review and approval **prior to** implementation of such modification or change. The decision by NMED will be rendered promptly in writing to the Grantee. In cases necessitating immediate action, a verbal decision will be rendered by NMED and followed by a written confirmation to the Grantee.
- K. The Grantee will provide a full-time construction inspector during construction of the project unless NMED determines that part time inspection is adequate for the project. This must be requested and approved by NMED prior to the start of construction. The Grantee will be required to submit the inspector's résumé to NMED for review and approval. All daily inspection reports shall be made available to the NMED Project Manager upon request.
- L. All daily inspection reports shall be made available to the NMED Project Manager upon request.
- M. Notwithstanding the inspections performed by the Grantee and its engineer, NMED will have the right to examine all installations comprising the project, including materials delivered and stored on-site for use on the project. Such examinations will not be considered an inspection for compliance with contract plans, but will be a general NMED review as described in Article 2 below.
- N. If applicable, the Grantee (or the system owner) will employ qualified utility operators and will comply with all provisions of the New Mexico Utility Operators Certification Act, Section 61-33-1 et seq. NMSA 1978.
- O. NMED will reimburse the grantee its actual costs when NMED determines, in its sole discretion, that expenditures were appropriate under the terms of the Agreement and that the expenditures were properly documented.

ARTICLE 2 NMED OVERSIGHT

NMED inspection, review and approval are only for purposes of compliance with applicable state grant requirements, procedures, statutes and regulations. NMED approval will not be interpreted as any warranty or

guarantee of any kind. Approval of plans and design of the project means only that plans are in compliance with applicable state grant requirements, procedures and regulations. NMED will bring to the Grantee's attention, any obvious defects in the project's design, materials or workmanship, but all such defects and their correction will be the responsibility of the Grantee and its contractors and consultants. Any questions raised by NMED during its inspections and reviews shall be resolved exclusively by the Grantee. The Grantee and its contractors and consultants will remain responsible for the completion and success of the project. Approval does not relieve the owner or engineer of legal responsibilities for the overall integrity of the project, adequacy of the design, safety, or compliance with all applicable regulations.

ARTICLE 3 CLOSEOUT

- A. The project will not be considered complete until the work as defined in this agreement has been fully performed, and finally and unconditionally accepted by the Grantee and NMED.
- B. If the grant funds are to be used for preparation of a PER, a study, or plans and specifications, final payment will be made after approval by NMED of the PER, study, or plans and specifications. Payments do not constitute approval of any of these documents.
- C. If the grant funds are to be used for purchase of equipment, final payment will be made after approval by NMED of receipt of equipment title and appraisal reports for used equipment.
- D. If the grant funds are to be used for construction, final payment will be made after the final inspection has been conducted by NMED and the following items, unless waived by NMED, have been provided to NMED, and have been reviewed and approved by NMED:
 - i. Operation and maintenance manuals or a letter from the owner certifying receipt and acceptance of the operation and maintenance manuals;
 - ii. A final reimbursement request including the final certified construction pay request prepared by the Grantee's project engineer and approved by the Grantee;
 - iii. A certificate of substantial completion including punch list items;
 - iv. A letter certifying project acceptance by the Grantee and the Grantee's project engineer stating that work has been satisfactorily completed and the construction contractor has fulfilled all of the obligations required under the contract documents with the Grantee, or if payment and materials performance bonds are "called", an acceptance close-out settlement to the Grantee and contractors will be submitted to NMED for final review and approval;
 - v. Certification letter by the Grantee that the Labor Standards Contract Provisions have been met;
 - vi. Record drawings prepared by the Grantee's project engineer or a letter from the owner certifying receipt and acceptance of the record drawings;
 - vii. Complete and legally effective releases or waivers (satisfactory to the Grantee) of all liens arising out of the contract documents and the labor services performed and the materials and equipment furnished there under. In lieu thereof and as approved by the Grantee, contractor(s) may furnish receipts or releases in full; an affidavit of contractor that the releases and receipts include labor, services, materials, and equipment for which a lien could be filed and that all payrolls, material and

equipment bills, and other indebtedness connected with the work for which the Grantee or its property might in any way be responsible, have been paid or otherwise satisfied;

- viii. A written consent of the surety, if any, to final payment; and
- ix. Grantee's ledger sheets including all payments made by the Grantee may be requested with the final reimbursement request and before the final reimbursement request can be processed by NMED.

With the exception of easements (See Article 1.G above), when real property is acquired by the Grantee, either through purchase or donation as a part of this project and within the project period, the Grantee will submit documentation of the acquisition to NMED, including a legal description of the property, the date the property will be acquired, evidence of clear title, and an appraisal report prepared by a qualified appraiser who was selected through applicable procurement procedures. These documents must be reviewed and approved by NMED **prior to** the acquisition of any real property. After real property acquisition, the Grantee will make available to NMED all documents of title pertaining to the acquired property and all easements or rights-of-way necessary for the completion of work under this grant agreement.

NMED Attachment C
NMED Contact Information Sheet
Project Number SAP 21-F2298-STB
Grantee Albuquerque Bernalillo County Water Utility Author

Project Manager: David Bishop
Project Manager Address: 121 Tijeras Ave NE, Ste 1000
Albuquerque, NM 87102
Phone: 505-469-3274
Email: david.bishop@state.nm.us

Project Administration: Bertha Aragon
Project Admin Address: 1190 St. Francis Drive S-2072
Santa Fe, NM 87502
Phone: 505-670-3615
Email: bertha.aragon@state.nm.us

For General Assistance, please call 505-827-2806 and ask for “Special Appropriations” or email:
NMENV-cpbsap@state.nm.us

NEW MEXICO ENVIRONMENT DEPARTMENT
CONSTRUCTION PROGRAMS BUREAU

**NMED ATTACHMENT D DISBURSEMENT REQUEST
SPECIAL APPROPRIATIONS PROGRAM (SAP)**

A. NAME OF ENTITY

C. DISBURSEMENT REQUEST NUMBER

B. PROJECT NUMBER

D. GRANT AMOUNT

	PREVIOUS EXPENDITURES		CURRENT EXPENDITURES		CUMULATIVE		FUNDS REMAINING	
	NMED PROGRAM	OTHER FUNDS	NMED PROGRAM	OTHER FUNDS	NMED PROGRAM	OTHER FUNDS	NMED PROGRAM	OTHER FUNDS
Engineer Fees							\$ -	\$ -
Other Professional							\$ -	\$ -
Service Fees							\$ -	\$ -
Inspection Fees							\$ -	\$ -
Property Acquisition							\$ -	\$ -
Construction Cost							\$ -	\$ -
Planning Cost							\$ -	\$ -
Equipment							\$ -	\$ -
Other Costs (specify)							\$ -	\$ -
Contingencies							\$ -	\$ -
TOTAL		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Article IX.A. (ii). By checking this box you are stating that payment has NOT been paid to the vendors associated with this request. Upon receipt of payment from NMED, certification of payment will be sent within 10 days from the date of receiving reimbursement.

Article IX. A. (ii). By checking this box you are certifying that the vendors associated with this request have been paid.

Certification: Under penalty of law, I certify that all the above expenditures are true and correct and are for appropriate purposes in accordance with the terms and conditions of the pertinent Loan/Grant Agreement; that all of the above expenses are properly documented, and are actual invoices; that payment has not been received; and that the grant activity is in full compliance with Article IX, Sec. 14 of the New Mexico Constitution known as the "anti-donation" clause.

Signature of Authorized Official:

Typed or Printed Name:

Phone:

Date:

X

NMED Attachment E
New Mexico Environment Department (NMED)
Capital Appropriations Certification Document
Article IX. A. (ii) and (iii)
Project SAP 21-F2298-STB
Grantee Albuquerque Bernalillo County Water Utility Author
Payment Request No _____

I certify that payment to all vendors on the above referenced payment request were paid no more than five (5) days after receiving reimbursement from NMED.

Official Representative, Signed Name, Printed Name, Date

1 PASSED AND ADOPTED THIS 22nd DAY OF September, 2021
2 BY A VOTE OF: 5 FOR 0 AGAINST.

3

4

5 Yes: Benson, Davis, Jones, Pyskoty and Quezada

6 No:

7 Excused: Peña and Nair

8

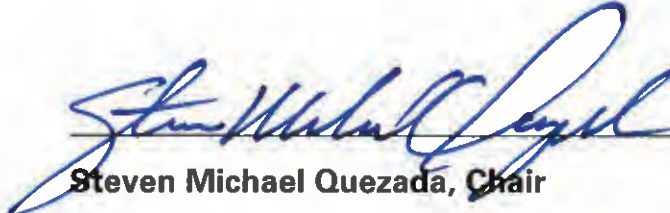
9

10

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Steven Michael Quezada, Chair

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18 ATTEST:

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20



21 Mark S. Sanchez, Executive Director

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Name of Grantee: Albuquerque Bernalillo Co WUA Project Number: SAP 21-F2298-STB

Current Authorized Signatures (submit with Signature Resolution; update when necessary)

Authorized to Sign Grant Agreement	
Name	Mark S. Sanchez
Title	Executive Director
Signature	
Address	P.O. Box 568
	Albuquerque, NM 87103
Email	msanchez@abcwua.org
Phone	505-289-3101
Authorized Officer/Official Representative; To sign Disbursement Requests and All Other Documents	
Name	Mark S. Sanchez
Title	Executive Director
Signature	
Address	P.O. Box 568
	Albuquerque, NM 87103
Email	msanchez@abcwua.org
Phone	505-289-3101
Agent or Employee that will make Monthly CPMS Updates	
Name	Andrea Chandler / Marta Ortiz
Title	Principal Accountant / Capital Improvement Manager
Signature	Signature Not Required
Address	P.O. Box 568
	Albuquerque, NM 87103
Email	achandler@abcwua.org / mortiz@abcwua.org
Phone	505-289-3028 / 505-289-3007



CITY OF ALBUQUERQUE
ENVIRONMENTAL HEALTH DEPARTMENT

Epidemiology Section
One Civic Plaza NW, 3rd Floor, Room 3023, Albuquerque, NM 87103

(505) 768-2738

Construction Noise Permit PERMIT NUMBER

The responsible party shall be liable for the accuracy of the document and compliance with all applicable rules in Title Chapter 9: Health, Safety and Sanitation, Article 9: Noise Control of the City of Albuquerque - New Mexico Code of Ordinances.

Contact Information

Company Name: INTERA on behalf of the Albuquerque Bernalillo County Water Utility Authority (ABCWUA)

Name of Person In-Charge: Joseph Tracy

Work Site Location: Within Indiana Street SE south of Kathryn Avenue SE
Address Zip Borough Block Lot

Contact Phone Number: (505) 246-1600 ext. 1219

Approximate Distance to Noise-Sensitive Property (as defined in §9-9-5) Approximately 40 feet west feet.

Construction Work is Taking Place from: 01/24/2022 To 03/18/2022
Month Year Month Year

Work Days and Hours (as defined in §9-9-5 (C)) 7 AM to 5 PM

Construction Activities and Equipment

Please describe the types of activities which will occur at the construction site and the equipment that may be used for such. For example, jack hammering will take place on NE corner of street.

INTERA, on behalf of the Albuquerque Bernalillo County Water Authority (ABCWUA) will be installing a monitoring well within Indiana Street SE, just south of Kathryn Avenue SE. Equipment used will include a sonic drilling rig, forklift, and support trucks. Rig noise estimated DBA levels are included in the attached figure.

Mitigation Measures

Describe mitigation measures (as set forth in §9-9-5 (C2)):

Sound panels will be erected around the drilling rig and general construction area to mitigate noise to nearby residences. Sound panels that will be placed are STC-25 rated (ASTM E-413) and 12-feet tall.

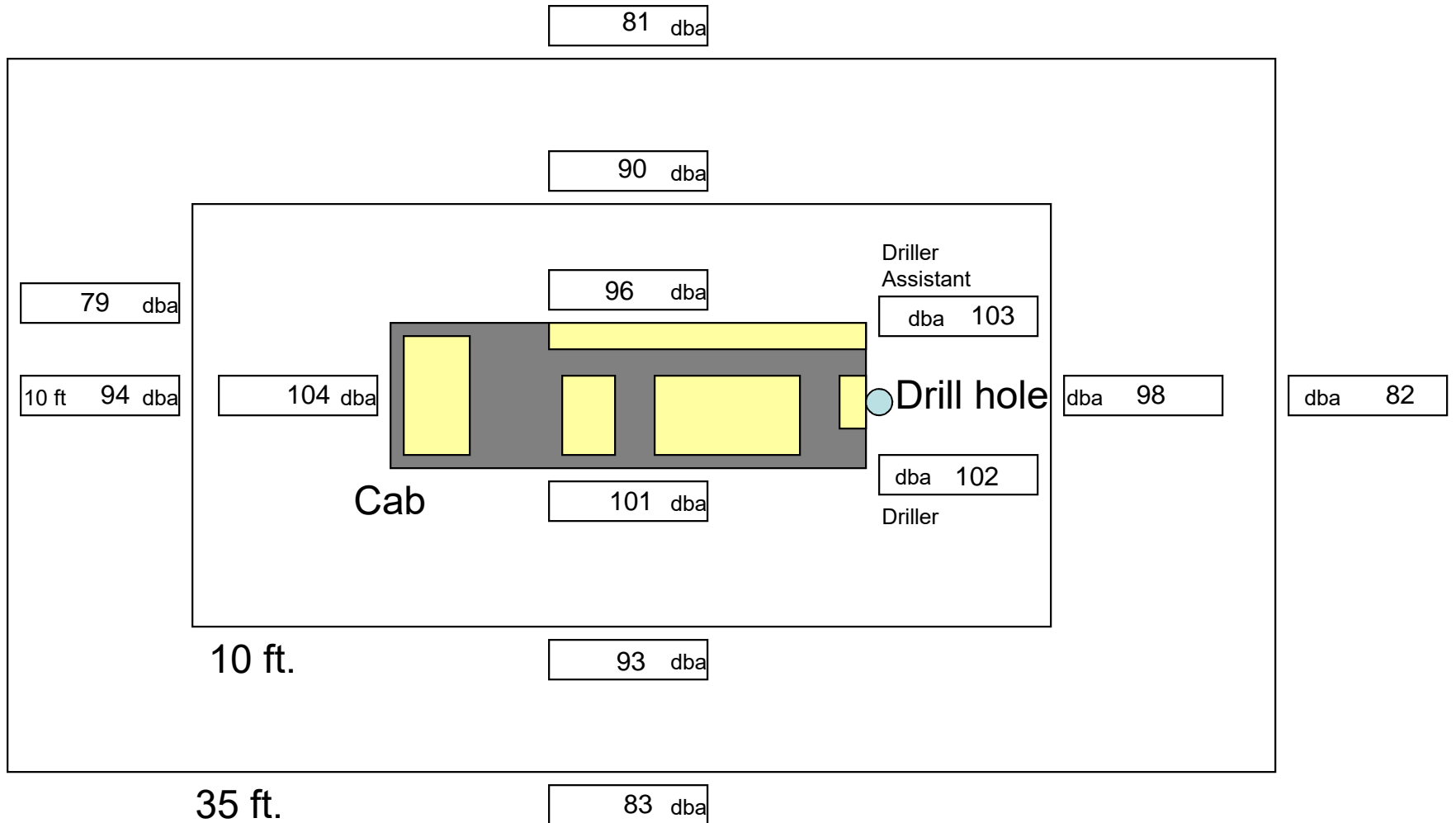
I of the
Name of Person In-Charge Company

hereby certify that the information contained in this form is true and accurate.

Applicant Signature: Date: 12/17/21

EHD Signature: Date:

SOUND LEVEL RECORDINGS



Details of rig operation when recording taken.

Compacted Sands

RIG No. Spider Sonic Rig #2

DATE 3/5/14



CITY OF ALBUQUERQUE
ENVIRONMENTAL HEALTH DEPARTMENT

Epidemiology Section
One Civic Plaza NW, 3rd Floor, Room 3023, Albuquerque, NM 87103

(505) 768-2738

Construction Noise Permit PERMIT NUMBER 21-10

The responsible party shall be liable for the accuracy of the document and compliance with all applicable rules in Title Chapter 9: Health, Safety and Sanitation, Article 9: Noise Control of the City of Albuquerque - New Mexico Code of Ordinances.

Contact Information

Company Name: INTERA on behalf of the Albuquerque Bernalillo County Water Utility Authority (ABCWUA)

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I of the
Name of Person In-Charge Company

hereby certify that the information contained in this form is true and accurate.

Applicant Signature: Date: 12/17/21

EHD Signature: Date: 12/17/21

From: eticket@nm811.org
To: [Austin Hanson](#)
Subject: NM811 Ticket Confirmation: 22JA180705
Date: Tuesday, January 18, 2022 11:55:10 AM

NM811 LOCATE REQUEST

TICKET NUMBER:	22JA180705	Update of:	
Ticket Type:	Standard Locate	For Code:	AUTOEMAIL
Creation Date:	01/18/22 11:54	Seq Num:	1

Excavator Information

Company:	INTERA	Main Contact Phone:	(484) 264-3095
Address:	6000 UPTOWN BLVD NE	Secondary Phone:	
City, St, Zip:	ALBUQUERQUE, NM 87110	Main Contact Email:	AHANSON@INTERA.COM
Company Phone:	(505) 246-1600	Alternate Contact:	JOSEPH TRACY
Company Fax:		Alternate Contact Phone:	(505) 246-1600
Main Contact:	AUSTIN HANSON	Alternate Contact Email:	JTRACY@INTERA.COM

Work Information

State:	NM	Work To Begin:	01/20/22 AT 12:00
County:	BERNALILLO	Expire Date:	02/10/22 AT 12:00
Place:	ALBUQUERQUE		
Address:	800 INDIANA ST SE		
Intersection:	KATHRYN AVE SE		
Work Type:	Bore-Auger - Holes	Working For:	ABQ WATER AUTHORITY
Pre-marked:	Yes	Mechanical Boring:	No
Contact Prior to Locating:	No	Contact After Locating:	No

Driving Directions

Spotting Instructions

FROM THE INTER, SPOT ALONG INDIANA RD GOING S TO N EDGE OF DRIVEWAY.

Remarks

MONITORING WELL // HAZARDS: NONE // ACCESS: OPEN // ANIMALS: NONE

TRSQ: [W8T10NR03ES25NE] [W8T10NR03ES25SE]

Utilities Notified:

Code	Name	Manually Added
ABQWA	ALBUQUERQUE/BERNALILLO COUNTY WUA	False
NMGAQ	NEW MEXICO GAS COMPANY - ALBUQUERQUE	False
PNMAB	PNM ELECTRIC - ALBUQUERQUE	False
QLNN	CENTURYLINK LOCAL NETWORK CENTRAL	False

From: eticket@nm811.org
To: [Sharwin Steinmetz](#)
Subject: NM811 Ticket Confirmation: 22JA180638
Date: Tuesday, January 18, 2022 10:51:37 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe. If in doubt, contact the Help Desk...

NM811 LOCATE REQUEST

TICKET NUMBER:	22JA180638	Update of:	
Ticket Type:	Standard Locate	For Code:	AUTOEMAIL
Creation Date:	01/18/22 10:51	Seq Num:	1

Excavator Information

Company:	CASCADE DRILLING	Main Contact Phone:	(623) 935-0124
Address:	7773 W Seldon Lane	Secondary Phone:	
City, St, Zip:	Peoria, , AZ 85935	Main Contact Email:	ssteinmetz@cascade-env.com
Company Phone:	(619) 647-5485	Alternate Contact:	
Company Fax:		Alternate Contact Phone:	
Main Contact:	SHARWIN STEINMETZ	Alternate Contact Email:	

Work Information

State:	NM	Work To Begin:	01/20/22 AT 11:00
County:	BERNALILLO	Expire Date:	02/10/22 AT 11:00
Place:	ALBUQUERQUE		
Address:	801 INDIANA ST SE		
Intersection:	KATHRYN AVE SE		
Latitude:	35.064534	Longitude:	-106.571043
Secondary Lat:	35.065465	Secondary Long:	-106.570882
Work Type:	Bore-Auger - Soil Sample	Working For:	Intera
Pre-marked:	Yes	Mechanical Boring:	No
Contact Prior to Locating:	No	Contact After Locating:	No

Driving Directions

From the corner of Southeast intersection of Georgia Ave and Kathryn Ave go east 300 feet to Indiana Ave and Kathryn Ave Begin locating.

Spotting Instructions

From the North west intersection of Kathryn ave and Indiana st, locate south 300FT south on Indiana Street both sides of the road to include side walk.

Remarks

Location in the middle of the road of Indiana street SE

 TRSQ: [W8T10NR03ES25NE] [W8T10NR03ES25SE]

Utilities Notified:

Code	Name	Manually Added
ABQWA	ALBUQUERQUE/BERNALILLO COUNTY WUA	False
NMGAQ	NEW MEXICO GAS COMPANY - ALBUQUERQUE	False
QLNN	CENTURYLINK LOCAL NETWORK CENTRAL	False

Appendix B

Field Notes

Field Notes

Drilling

20 11-2-21

1315 See City property
to east, for
lay down yard.

RMS Data Gapwell 21
1-24-22 Monday clear, cold

800 Indiana St, ABQ ~ 30° F

0630 To site

0650 on site. (20 min)

0700 Forklift delivery ✓. GTH-5519
199190

See Rental Contact, give to Cascade

Ahern Rentals 702-647-8100

0715 Joe Tracy on site
discuss all.

0820 Cascade on site w/

Ditch Witch ad drill rig

0820 Cascade on site.

Talk with home owner.

Keep driveway open.

"Lolita"

AES here w/ 2 totes. ✓

10yd³ 17' x 9'

0830 Road is blocked and
signed.

Pull drill rig over hole
location.

0850 Set up deck and
measure for tarps to
total length.

22 RMG

1-24-22 Monday

0900 Rig + deck + trailer -
fit to driveway? yes.

0940 call w/ Joe T.

Hold for communication w/
WA re sound before daylighting.
Confirmed, need sound panels. OK ✓

0945

Cascade Safety Tailgate Mtg

- ✓ Cold
- ✓ litty
- ✓ falling in hole
- ✓ small space
- ✓ moving equipment
- ✓ hearing protection
- ✓ pinch points
- ✓ team lift

→ 811 Permit No. - Austin has...

22IA180705

1000 Cascade to go get
Sound panels from Peralta.
Will return and set panels
before daylighting. OK.

Daylight - cut 2' x 2' asphalt
confirm w/ Joe T. ✓

RMG

23

1-24-22 Monday

Call Sharwin for fence
update.

Fencing tomorrow AM.

250 (LDR fencing)

Security - has called 4 firms
Portapotty ✓ w/ fencing -
was supposed to be here
by 0900 today.

1027 Call Lynda Price
for safety update.
Call her when crew returns
with sound panels ✓

1030 Port-o-Let here. "505"
505 859-5767 ← call for
service.

0480 Michael
Combination for portolet ✓
Served 7 days ✓

1100 Kelsey Britton on site

1-24-22 Monday

Cascade drill crew

Kevin Rogers

Jason Moore (leaving)

Robert (Bobby) Goodwin

Anthony Meers1100 discuss site layout w/
Kelsey.1200 call w/ Joe T. re
roll off location, security, fencing,
hole safety, etc.
Review Traffic permit - Road Closure
1214 Cascade back with
sound panels. ✓Street Closure Permit:
"Total Closure of Indiana St.
South of Kathryn Ave."

1-24-22 Monday

1716 RMS call Lynda Price
she will come to the site.

Crew unloading the panels.

1730 call w/ Joe T. - need to
put the roll off within the
"compound". OK, because of
the permit. OK. will make
it work.1245 Lynda on site.
Discuss site layout.1500 Crew unloading sound panels,
set up around the hole before
daylighting.1350 Set 2 sound curtains,
on E and W side of hole
location before cutting the
asphalt ✓
Mark 2' x 2' square over
the hole.

26 RMB

1-24-22 Monday

1330 Crew to Peralta to
get support truck and
new asphalt saw blade. ok.

1430 Roll off here. AES

$$\begin{array}{r}
 505 \quad 861-1700 \\
 16.5 \times 9 \quad \times 5' \\
 = 660 \text{ ft}^3 \times \frac{1 \text{ yd}^3}{27 \text{ ft}^3} \\
 = 24 \text{ yd}^3
 \end{array}$$

1438 Lining the rolloff
with plastic.

Forklift width 6.5' wide

6.5 wide

17.5 long, including forks.

1507 Lynda prep for safety mtg.

RMB

27

1-24-22 Monday

1515 Call w/ Austin - not needed today

1520 Call w/ Joe T.
update. Will summarize at
end of the day. ok.

1530 Fire trucks at
Louisiana and Kathryn.

1535 Driller back.
Crew in other truck behind

1547 Other crew back with
support truck. Backing in.

1554 Safety Mtg - Lynda Price
Review H&S Plan

Emergency: 800 Indiana St.

Phone: cell phones 911 - Emergency.

First Aid Kit

Secure the panels

Vehicle emission - confined
space.

28 RMS

1-24-22 Monday

1620 Covid test kits
to Cascade crew.

1622 Ready to cut asphalt.

1632 Cutting asphalt.

Break out the asphalt square,
with sledgehammer and
digging bar.

1651 Cutting complete.

Still need to break out more
in the morning.

Move "tender" truck next
to rig over hole.

more totes next to rig.

Lock portolet.

Roll off is strapped shut.

Forklift is secure.

1700 Cascade off site

29

1-24-22 Monday

1700 Summary 1-24-22

- Obtain Forklift
- Mobilize drill rig to site
- Obtain 24 yd³ roll off
- Obtain portolet
- Cut 2x2 asphalt
- Set up noise & Safety Mtg

Tomorrow 1-25-22

Complete daylight ops

Obtain fence

Set up over hole

Begin drill?

1710 RMS call Joe T.

RMS call w/ Joe T.

Tomorrow, RMS call Kelsey
before drilling.

1730 RMS off site. ✓

RMS

30 RMS

1-25-22 Tuesday

Clear

Cold

~25°F

0630 To site

0645 on site

Prep for Safety Mtg.

Personnel

R. Sargebush - INTERA

Kevin Rogers - Driller - Cascade

Jasone Moore - Cascade

Anthony Meers

Equipment

Forklift - rental

Ditch Witch vac for daylighting

Drill Rig - Sonick - Cascade

Tender/Pipe Truck - Cascade

Roll off - lined, 20yd³ Bx16'

Objectives

- Complete Utility daylighting
- Prep to drill
- Set up new panels
- Begin drilling

Walk around equipment, all OK.

RMS

1-25-22 Tuesday

31

0715 Cascade here

0720 Safety Mtg - INTERA

0730 Safety Mtg - Cascade

"could get the box truck" KR

Cascade is missing a helper today.

May have another later today.

Deer weather, expect storm tonight

KR - (-) Covid, JM - did not test, forgot

0740 Call w/ Jue T.

He cannot come out here this AM.

RMS to check on fence.

Moving ahead here.

House 809 Indiana St -

dog = "Buster Douglas"

0800 RMS set up tablet
for core logging.

Crew breaking out the
asphalt.

32 RMS
1-25-22 Tuesday

0835 asphalt broken out,
ready to daylight.
Use Ditch Witch vac
to start daylighting.
Using water jet and vacuum
to make the daylight hole.
See photos - Fuji Camera

0910 Daylight hole is open
to 6 ft. No visible utilities ✓

Put asphalt chunks into
roll off. Then will begin to
set up the noise curtains
on the east side of road.

Cascade will need to go to
Peralta to get the hopper
and more sound curtain
plates.

0946
Kevin needs a fitting for
the ditch witch to clean out
the tank into the roll off,
so has to go get the part at
ditch witch.

RMS # 33
1-25-22 Tuesday

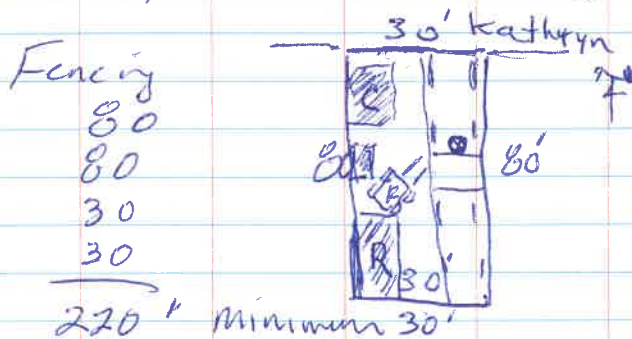
0956 RMS call Sharwin -
left message.
request update on fence
and and security.

1000 Text Sharwin, ask
for update status on
fence and security.

1024 Text back from
Sharwin.

Expect fence within the
hour. Security still tomorrow.
RMS text this to Joe T.

Note, Street is 30 ft wide.



1040 Cascade back.

34 Rmg

1-25-22 Tuesday

1043 Now clean out the ditch with into the roll off.

#00

1056 Fencing is here.

Valley Fence 505 877-1155

1100 Jason back to Ditch Witch.

1151 Still setting up the fence.

Doing an excellent job.

A person walked by swinging a hatchet....

1154 Jason back with part to clean out Ditch with tanks.

1140 Call w/ Austin re daily schedule.

1130 Call w/ Lynda Price to bring cones for driveway and fence corners.

1200 Cascade crew trying to clean out the Ditch with tank-

Rmg

35

1-25-22 Tuesday

1215 Fence complete. 17 x 10' panels

Cascade signed ✓

Valley Fencing off site.

Ditch Witch cleaned out.

1227 Now cleaning the Ditch with hoses. Must clean before returning

1240 Call w/ Joe T

Putting panels up today, (now)

Encourage Cascade to

start drilling to day, it

would help a lot, yes.

1247 Sliding panel to other side so slanted top faces inward toward source of sound.



1257 Pick up another panel. - Forklift

1309 Set panel = 12 min

1328 Set panel = 29 min

36 RMS

1-25-22 Tuesday

1300 Test Tablet and
mobile hot spot sync,
Tablet # 00977

RMS phone - Mobile HS - on
Tablet - Tablet Visibility - on (?)

1310 Call Austin re hot spot.
will call me back. ok -

RMS

Cell Phone Password! find under
Enter Mobile H.S.

ffbu3280 Sync ✓

Text to Austin to confirm

1330 4 panels set (2 new ones)

ready to position the rig.
Roll out the plastic, both
under rig and tender truck.

RMS

37

1-25-22

Tuesday

panels

8' wide x 9' + 2' x

Discuss w/ Kevin -

has to go to yard for more
panel boxes. Can only carry
a few = 400 lbs each.

will need to test Forklift
access w/ roll off on south side.
Bring in the tender truck then
test.

Tower up the rig to check
alignment over the hole.

Note - gas line is 6' from
the east curb.

1407

Install railings at edge of
deck.

1400 - called Lynda, ready
for her to come to site,
bring cones and caution
tape for driveways,
1415 move Tender truck
onto site.

38 RMB
1-25-22

Tuesday

1420 Lynda Price on site
See Drilling Inspection form.

1432 Call from Kelsey Bicknell-
Water Authority.
Give her status update.

She will come to site in the
morning to observe. Ok.

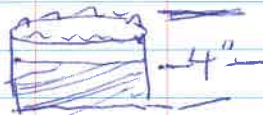
1438 Text update to Joe T.
Count Pipe re Kelsey.

8" x 10' x 16' ✓ = 160

6" 2 x 5', 2 x 2.5 sample
2 x 10' band.

3.5" x 10' x 30' = 300

"shoe" 9.5" x 4"



5.5' KB

RMB
1-25-22

Tuesday

39

1453 1 x 6" x 10'
Shoe on to 10'

1456 1 x 6" x 10' 20

1500 "Spud In"

Core barrel to 21' 17' $\frac{21}{-15}$
Sub to bottom tube. 17

© 15

+ 10' = 27, then add
casing.

Safety walk around.

Prosonic 50k (?)

Platform - eye contact.

Safety rails

Slide on the west side

1520 call w/ Austin ✓

Plan to Sync and summarize ✓

1615 Log core to 25' ✓
Pack up geology station

40
1-25-22 Tuesday

1640 Close up fence.

Lynda Price off site.

1645
Cascade take Ditch Witch
to rental yard.

1646 photo summary, text
to Austin Hansen.

Sync the tablet log ✓ success ✓

1649 RMS off site.

41

Core Drilling

Time	Csgl/ Joint/core Barrel	Core Hole Depth
1544		25'
<hr/>		
1-26-22		
0930	Cleanout run for slough into hopper.	
1022	core up	25-35'
1040	core up	35-45'
1157	core up	45-55'
1350	core up	55-65'
<hr/>		
1-27-22		
0903	core up	65-75'
0953	core up (50)	75-85'
1035	core up (42)	85-95'
1137	core up (1:02)	95-105'
1315	core up	105-115'
1404	core up (49)	115-125'
1450	core up (46)	125-135' (70)
1615	core up ✓	✓135-145' (80)
<hr/>		
1-28-22		
10824	core up	145-155'
20925	core up (1:01)	155-165'
31125	core up	165-175'
41227	core up (1:02) See P. Log continue.	175-185'

42 RMS

1-25-22 Tuesday

Summary 1-25-22

- H & S Mtg
- Complete daylighting
- Set noise control panels
- Set up over hole
- Complete fence installation
- Rig safety inspection
- Begin coring

End 25
 Start 0
 Total 25'

Tomorrow 1-26-22

- Set 2 more sound panels on west side
- Obtain smaller forklift
- Continue coring

1-26-22 Wednesday

light snow 43
29°F
strong wind

0630 To site

0650 on site

Text to Kelsey Bucknell

0615 call w/ driller, will be late due to loading sound panels this AM. Too windy to do last night.

0700 RMS walk around inspect job site,

Fence ✓

Sound Panels ✓

Drill Rig ✓

0730 Call w/ Joe T.

drum schedule and personnel.

Security - RMS call Sharwin

0752 Update text from driller, will be here about 0800. ok.

RMS text Sharwin re fire security.

44 Rmly
26-22 Wednesday

0810 Cascade here.
Open the site.

0815 Cascade Safety Mtg.

Tight work area

Spotter

pinch points

stairs

Anthony Meers - new for cascade
INTERIM Safety Mtg. ✓

0820 Kelsey Bicknell here -
Water Authority

0830 Setting up the sound
panel on west side of rig.
Have one up already. Slide it
southward add one more for
two total. This covers the noise-
making part of the rig and
leaves access to the hopper
beneath the deck.

0911 - Panel # 2 west in
place.

Rmly 45
1-26-22 Wednesday

0912 now place hopper
under the deck. Will need
to access from the end, not
the side, so will need to move
the tender truck to dump the
hopper. Not ideal but will work.
Can't access from west side because
of a "pump" attached under the deck.

0920 Crew placing 4x4x8'
posts under side of plastic
to create berm under the rig,
as specified in Work Plan.

1000 Pedro dropped off 2 cones
for the driveway. ✓

0930 Commence drilling.
Add 8" CS9 to 20',
continuum core.

1030 Kelsey Bicknell off site.

1040 Cored 25-35, 35-45.

Stop to put up another sound
panel.

1100 moving panel into place.

46 RMS
1-26-22 Wednesday

1100 Csg @ 17'
= $2 \times 10 - 3 = 17$ ✓

Core to 45'.

RMS continue to log on tablet
in "Phog". Note cobble to
6" dia @ 38'.

1120 Csg 10' to 30-3
= 27'

1129 Trip back into hole.

Csg now flush w/ ground

surface so csg @ 30' bgs.

1133 driving sample 45-55'.
extra sound barrier is a big
improvement, but, I should
get some "shooting" hearing
protection.

1140 That was a "cleanout run"
dumped into the hopper.

Trip back into hole "TIIH"

1145 Coring 45-55

Vibrating down, not turning

1150 Sample up -

pulling rods, place in vertical rack

rods $20 + 20 = 40'$

core barrel $20 \text{ ft} = 60'$

$-10 = 50$

1-26-22 Wednesday

47

1200 Core 45-55. log ✓

Crew takes lunch

RMS take lunch.

1240 Crew back.

resume drilling.

1308 Resume coring 55-65' -

No - was another cleanout
run, dump into hopper. ✓

1326 Fluid ~~to~~ ^{valve} burst - set screw on plug

hydraulic fluid. No injury.

Driller hit E-stop - stopped.

Use absorbant pads to
clean up.

Driller was wearing eye protection -

no injury. Wiping up on
deck and control panel

1339 Add 10' rod.

Resume coring.

1330 Austin here.

1350 Core up 55-65

48 RMS
1-26-22 Wednesday

1430 Cascade to get part -
Call w/ Cascade - try another store.
Order cap - needs a cap.
Get Kitty Litter for spill control.
1435 Joe Tracy on site.
1500 Joe off site -

1550 Austin off site.

1615 Cascade back.

Spread Kitty Litter on
spill area on east side.
Discus found on plants
inside neighbors yard.
Button up this site.
Secure tools.

Core barrel is in the booby.
Close rolloff.

1637 Cascade off site.

✓ RMS do summary, text
✓ to Austin.
✓ Sync log to cloud. Success ✓

1655 RMS off site
RMS

49
TOMS
1-26-22 Wednesday

Summary 1-26-22

- H² Safety Mtg
 - Set panel 12 & 3 on west side
 - Continue sonic core
 - Hydraulic leak through valve on control panel
 - Spill control with Kitty Litter on east side.
- End 65
Begin 25
Total 40'

Tomorrow 1-27-22

- Continue Coring

[Handwritten signature]

50 1-27-22 Thursday Clear
Cold
~18°F

0635 To site

0656 on site

H & S Mtg - Cascade ✓

- INTERIA ✓

Covid tests - crew will

take them now, OK.

Jason Moore is NOT vaccinated

See covid test results - (-). OK

Kevin photoed and emailed
them to me. OK.

0730 Talk w/ postal lady -
Angela - , dog is Molly.

Neighbor is James -
addiction problems.

0750 Start tender truck. Need
to move it out to use
fork lift to dump the hoppers.

0758 Start drill rig.

Kevin says that the
security companies do not want
to come to this location if not
armed. That is why Sharwin is
having a hard time finding security.

51 Rmy
1-27-22 Thursday
0803 Move the tender truck.

0809 dump the hopper.
dump from the east side
of the rolloff.

0821 Tender truck back
into yard, up to drill rig.

0835 Tripping into hole.
Will resume coring @ 65' bgs.

Trip out of Hole TOOTH

Rods 1 x 10

1 x 20

1 x 20

CB 1 x 20 Cleanout run - to hopper
70 - stickups = 65 to
bottom of hole ✓

Cleaning out slough from below
coring - Csg @ -554ft (?)

16 jts csg to stat

- 11 jts csg on truck.

5 jts on ground = 50' (-3 stk) = 47

open hole = 18' - ok

52 Rmex
1-27-22 Thursday

0856

T 1H, add 10' rod.

Core 65-75

TOOH

1 x 20

1 x 20

1 x 20

CB 1 x 20

80 - 5 + 5 = 75 ✓

0903 Core up, 65-75 ✓

0915 Add CS9 10' = @ 57'

0940 Core 65-75 logged.

Layers of Clay and Sand,
CL & SP 1-2" thick, predom
Clay, stiff, dense, HCL no reaction,
Caliche nodules @ 65-67, tubular,
like "burrows", 1/2" dia, up to 2" long.

0950 TOOH Core 75-85

1 x 10

1 x 10

1 x 20

1 x 20 70

1 x 20 80

CB $\frac{20}{90} - 5 = 85$ ✓

Rmex
1-27-22 Thursday

53

0953 Core up 75-85

Poorly graded sand w/ clay SP-SC

1007 T 1H for 85-95

Add 1 x 10' rod, -

Was a clean out run,
Slough into the hopper.

1030 TOOH

1 x 20

1 x 20

1 x 20

1 x 20

CB 1 x 20

100 - 5 = 95 ✓

Pour water over the end of the
Core barrel so the sample bags
dont melt.

1035 Core up 85-95 ✓

1050 Dumping the hopper.

1102 Add CS9 x 1 x 10' = 67?

Core 85-95 logged.

54

1-27-22 Thursday

1115

Call w Austin - Comments

Cap. Learn Clay
 Comments section

No powder, cones,

Cobbles.

SAND

1120 T 1 H

1124 Core 95-105 -

Chatter - gravel?

1135 T 00 H

1137 Core up 95-105

1146 add casing 1x10'

Core logged 95-105 SP-SC

1150 T 1 H

Chatter @ 105 as casing,

1159 T 00 H

1 x 20

1 x 20

1 x 20

Phone call -

T 00 H

55

1-27-22 Thursday

1200

Call w JT

Are we on schedule?
 with talk tomorrow re depth.
 discuss Cascade mgmt.
 Covid test - yes.

Security

When hit water?

Updown yard.

1230 Call back to Sharwon

discuss potential schedule impact.

MSDS - sent

Security "no luck"

National -

Duke City - maybe.

1240 Ditch crew clean up
 the east side of the rig for
 kitz liter, hydraulic fluid.

Discuss progress w/ Kevin.

Needs to get for 7" csg from
 Texas - on its way. wants to be

mid 200's by end of tomorrow. on.

56 Toms

1-27-22 Thursday

1300 T1H

Coring @ 105-115
TOOH

Rods 1 x 20

1 x 20

1 x 20

1 x 20

1 x 20

CB

20

120 - 5 = 115

1315 Core up 105-115

1337 Core logged 105-115 ✓
SAND SW 105-108108-115 CL Clay w/ caliche
nodules @ 112-115.

1330 TOOH

1 x 20

1 x 20

1 x 20

1 x 20

1 x 20

Cleanout run - OK.

20115
120 - 5 = 115 ?

Toms.

57

1-27-22 Thursday

1340 Cleanout run to TD @ 115,
then core 115-125.

1344 T1H

1352 Add 140 rod for
core 115-125,

1400 TOOH

1402 Begin to populate
chip tray, 10, 20, 30, etc. to 100
Label the tray ✓

1404 Core up 115-125

Add CS9 1 x 10'

1425 Core logged 115-125 ✓

TOOH - Cleanout run ✓

1430 T1H

Add 1 x 10' rod.

for Core

125-135

1442 TOOH

1 x 20

1 x 20

1 x 20

1 x 20

1 x 20

1 x 20

20 = 140 - 5 = 135

58 12mg

1-27-22 Thursday

1450

Core up 125-135 ✓

1500 Add CSG 1x10'

1509 Core logged ✓ 125-135

Difficulty threading the casing.
Check threads. Keep trying.
Won't tighten. Disconnect
and lay down. Was not CSG,
was an 8" core barrel, so

threads are different. So, were

Pick up CSG 15 CSG,
1 x 10' ✓ not 16.

15

-3

$12 \text{ CSG} \times 10 = 120' \Delta = 15', \text{ OK.}$

CSG to open hole = 15'.

1521 Move tender truck
to dump the hopper.

Cored 70 ft today, (so far).

See p. 44.

Hopper dump. ✓

1537 T1H

1547 TOOH 10m to tripping
core, start to trip out.

12mg

59

1-27-22 Thursday

TOOH

for core 135-145

~~1x10~~

1x20

1x20

1x20

1x20

1x20

130 120

20

~~150 - 5 = 145~~

140 - 5 = 135 cleanout!

1554 T1H

Core

Call w/ Austin - Est 90' tomorrow
email Core results to Lynda OR.

email MSDS to LP.

TOOH

1x10

1x20

1x20

1x20

1x20

1x20

1x20

130

+ 20

150 - 5 = 145

60 Rmg
1-27-22 Thursday

Talk w/ Kevin -
wants to leave early tomorrow.
I said NO - need to get
80'. So, will meet
early to get early start. Ok

1636 Core logged 135-145
80 ft today

1645 Close up site.

- Close fence
- Secure hole with CS9
and core barrel in hole
- Close rolloff.

1655 Cascade off site to
Peralta to load 8" CS9 for
tomorrow.

1700 Rm Summarize.

✓ Photo wd text to Austin

✓ Signal Plug - Success

1707 Rm's off site

Rmg

Rmg
1-27-22 Thursday

61

Summary 1-27-22,

• HES Mtg
• Cored 65-145
End 145
Start - 65
80 ft

- Loaded additional 8" CS9
onto trailer at yard
(after hours) for use
tomorrow.

Tomorrow 1-28-22

- Load additional 8" CS9
onto Tender Truck
- Continue Coring
- Coal in core 80'
- Expecting delivery
of 7" CS9 early next
week.

62 RMB
1-28-22 Friday

Cold 22°F
Pty Cloudy

0600 To site
0620 on site
0620 Driller Cascade on site -

- 0630 H & S Mtg
Cascade & INTERIX
- Transfer pipe from trailer to Tender Trucks.
 - Pull truck out
 - use spotter
 - watch for pedestrians
 - Pay attention / Friday
 - Work at the Speed of Safety

0700 Move tender truck out of site to street to load 8" casing from trailer.

See pipe on trailer.

15 x 8" x 10' but
some are 8" core (3?).

0713 Still warming up the trucks and the fork lift.

RMB
1-28-22 Friday

63

0730 Still warming up -
Driller adding fluid to drill head.
Start drill rig to warm up.

0740 Trips into hole,
Pipe transfer is on hold.

0750 TOOTH | T1H

1 x 20 | 1 x 20

1 x 20 | 1 x 20

1 x 20 | 1 x 20

1 x 20 | 1 x 20

1 x 20 | 1 x 20

1 x 20 | 1 x 20

~~1 x 20~~ | 1 x 10

1 x 10 | 1 x 10

130 | 140

20 | 20

150 - 5 = 145 Clearout

0803 T1H

0812 Ready to core 145-155

0820 TOOTH with core.

64 RIMM
1-28-22 Friday

0820 TOOH with core 145-155.

See p. 41 for list of core.
0824 core up.

Add CSg 8" x 10' x 1,
0841 core logged 145-155.

Now cleanout run.

TOOH for cleanout

$$7 \times 20 = 140$$

$$1 \times 20 = 20$$

$$\frac{160 - 5 = 155 \text{ cleanout} \checkmark$$

0953 Cleanout into hopper \checkmark

0904 Coring 155-165
Very strong chatter

@ ~ 155 - prob another
caliche layer. - NO - Not caliche.
Vibrating and turning, but
very slowly.

Slow penetration.

~ 155-160 caliche or cobbles,
then - faster, softer, then
chatter @ ~ 160.

Slow to cut 10'.

0915 Still cutting 155-165,

RIMM
1-28-22 Friday

65

0916 TOOH

0925 core up 155-165

Add CSg 8" x 10' x 1 = 150
- 2

This is the last joint of CSg on ¹⁴⁸
the tandem truck, so now will
transfer the other CSg from the
trailer onto the truck. Also
will dump the hopper

Log core as SW, well grouted
STAND with gravel, gravel
was what caused the chatter
and slow coring, OK \checkmark

0947 Observe pipe transfer.

1025 Pipe is loaded. \checkmark

Dump the hopper.

1030 Replace back under the deck.

Move truck back to the

rig and resume coring.

Note: 12 x 10' CSg

on truck.

in hole: 150

new 120

270'

8" CSg

66 12ms
1-28-22 Friday

1037 T1H

1050 Joe T. here

Will consider security options.

1059 Cleanup complete ✓

T1H.

1114 Cory.

TOOH

1115 JT off site.

$$8 \times 20 = 160$$

$$1 \times 20 = \frac{180}{20}$$

$$\frac{180}{-5} = 175 \checkmark$$

1132 Add CSy 1x10'

$$150 + 10 = 160 (-5th)$$

1148 Cleaning out to 175

Core logged 165-175 ✓

SP and SW + CL in

5 layers.

$$TOOH \quad 8 \times 20 = 160$$

$$1 \times 20 = 20$$

$$\frac{180}{5}$$

Cleanup to \rightarrow 175 ✓

12ms 67
1-28-22 Friday

1200 T1H to core 175-185

1210 Cory @ 175-185

Strong chatter @ 175-180'

1215 TOOH - No, team,

still chatter @ 180

1217 TOOH

$$1 \times 10 = 10$$

$$8 \times 20 = 160$$

$$1 \times 20 = 20$$

$$\frac{190}{-5} = 185 \checkmark$$

1227 Core up 175-185

1249 Core logged. SP SW + grad.

T1H for cleanup.

1254 call home ✓

Security

"AOP"

Cpt Logan

Gil Chavez - owner

Unarmed ✓

hourly reports ✓

Continuation of patrol

RM's call Joe T. ✓

1311 Call Shannon, text Shannon ✓

68 2mg
1-28-22 Friday

1320 Coring 185-195

Very slow coring.

Chatter @ 190 ft

1332 TOOH (9x20)(1x20)-5

1342 Core up = 195
185-193

will pick up 193-195 on next run. Frm got very bad at 193.

Dinner will run casing \downarrow x 10'

1411 Cleanout run. 185-193.

1422 Update call to Jet West.
re geophysical logging.

Talked w/ Mike, he will let Mick know.

1424 TOOH for cleanout.

1430 Cleanout. to 193. ✓

1434 T1H to core

Add 10' = 210(-5) = 205

1444 Begin coring 193-205

Very slow, chatter @ 193

Now slow, steady ~ 200 - +

69
1-28-22 Friday
Core cont'd from p. 41

Time Depth
From p. 41

1227 175-185

(5) 1345 (1:08) 185-193 ^{RMF}

(6) 1511 193 - 205

1-31-22

0900 205-215

1134 No Core 215-225 Empty

2-1-22 Tuesday
1039 215-225 ✓

(Missing 220-225) - fell out

215-220

SW w gravel

Assume 220-225 = AS Above

Change sample interval to
end on 7

go to p. 97

70 1-28-22 Friday

1450 Call w/ Austin.
has the sample bottles.
grab 2 x 40ml VOA EDB

1500 TOOTH w/ core.

1511 Core up
RINS log core. - Note:

driller added water so bottom core is wet.

Cascade Secure the site,
Place forklift within the
fence.

Core barrel is in casing
Casing stick up to about
5' so hole is secure.

1530 Call w/ Sharon:

Security is for:

F Tonight Patrol 9, 12, 3

Sat Tomorrow 3 hrs

Sat Sat Night Patrol

Sun Patrol

Sun NT Patrol

Monday - will change to only
mts and weekends

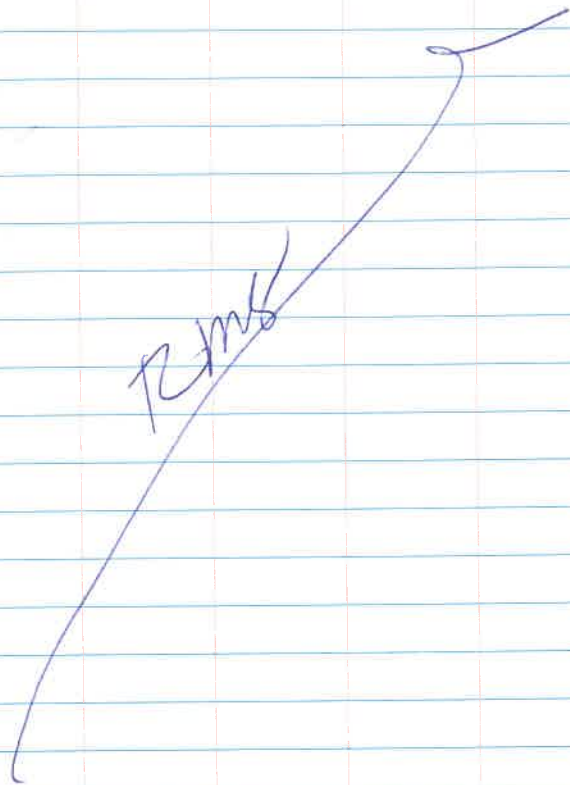
Sharon will revise contract.

71 1-28-22 Friday

1600 Cascade off site

TRMS continue to log
core.

Close up site, pack up geo gear.
Lock cable, lock outhouse.



72 RMS
1-28-22 Friday

Summary 1-28-22

- H & S Mtg
- Transfer 12 jts of 8" csg from trailer to Tender Truck
- Core and log
End 205
Start 145
Total 60'
- Secure site for weekend
- Hole is secure
- Forklift inside fence
- Fence is bolted closed
- AOP Security is scheduled for patrol through the weekend.

Next Week
Monday 1-31-22

- Continue Coring and logging

73 RMS
1-28-22 Friday
1620

- ✓ Photo notes Summary
- ✓ Text to Austin

Sync PLog -

Error -
"Connection is unauthorized.
Your password may have changed.
Try logging out and logging in"

Austin Login
UN Athanson
PW d_a3?J
↑
indiscre

Outlook - email
AA will reset my password. in PLog

- r Seng bush
 - See email
- UN Rob - Seng bush
PW ug)aaD

1638 Success ✓ 1640
RMS off site

74 Rms
1-31-22 Monday Clear
30°F
26°F

0610 TO site

0630 on site

Prep for Safety Mtg ~

See AOD Security,
talk to Supervisor, says
all went well on the patrols
over the weekend.

0645 Walk around site,
Replace traffic flag. Looks
like there was wind over the
weekend.

Unlock cables on fence,
open fence, unlock
portable.

0705 Cascade on site.

0710 Safety Mtg ~
Cascade ✓
INTERIT ✓

75 Rms
1-31-22 Monday

Core @ 205

Cascade is short
one helper until later today.
Winter storm coming later
in the week, so get prepared
with warm clothes.
0730 Begin work.

Objective

Core Data @ up well
Log core

Personnel

Kevin Rogers - Cascade
Jason Moore - Cascade

Rob Sengbusch INTERIT

Equipment

Drill Rig - Somic
Tender Truck Mack
Forklift
Utility truck - for extra casing

76 Rms
1-31-22 Monday

0744 Warming up the
drill rig and tender truck.
Will continue coring @ 205'.

0746

Move forklift ✓

Note - FSTER should
~~not~~ be charged for only
one helper. (2nd helper here at
1151, see p. 79)

0825 Lay out more plastic
for core and adjust angle of
core slide and table.

Set up geostation.

0826 T 1H

0934 Cleanout run.

0940 Core up to 215'

∴ Load CSG 205 - 215. ✓

∴ Dump the hopper.

0954 Move Tender back to rig,
mop up fluid leak on platform with
"diapers", leave in place.

Rms
1-31-22 Monday

77

1006 T 1H

1014 on bottom 8 min Trips.

Note: Coarse gravel =

Coarse > 3" > 3/4"

Fine < 3/4"

No Medium!

1015 Chatter and grind -
cleanout to 215. ?

See lith log for KAFB 106206

Expect water @ 475' bgs
(in 2012).

Today @ ~ 200' $\frac{475}{200}$

Assume 60'/day

$$4 \times 60 = 240 + 1 \times 30 = 270$$

~ 4.5 days = Friday mid-day,

assuming continuous work days -

Note, expect snow on
Wednesday and Thursday, could
slow the work.

1030 T 00H

Cleanout run.

1040 T 1H for core, 215-225

78 RMB
1-31-22 Monday

1 x 10 = 10

10 x 20 200

1 x 20 20

230 - 5 = 225

1054 Corrig. 215 - 225.

Corriging slowly - slow penetration
and slow rotation.

Chatter @ 218 - 220 +

1113 Core cut. = 19 min

TOOM / phone break drill

1118 Roadrunner sighting.

1131. Driller says helper
is at the airport.

1134 Core up 215 - 225

Core barrel is EMPTY!

Was very hard run,

Chatter (gravel?) @ ~218, and
hard pack below that.

Core catcher? Driller

has another type of bit that
might hold the sample better.

1141 Change to other shoe/bit.

TIH to catch sample 215 - 225

RMB
1-31-22 Monday 79

1151 Anthony Meers back
on site (from airport).

1152 Cutting core (again),
hope to keep it in the
core barrel during the trip out.

1155 Major Chatter @ ~220.
Penetration slowly.

1158 Stop rig - something is up!!!
Pull up about 10'.

Oscillation gauge on panel is
full of hydraulic fluid - so a
line or membrane failed, will
need to fix the line and get
a replacement gauge. Look
for gauge on Tender truck but
think it is not on this truck,
expects it to be on the Box Truck
that is undergoing repairs.

1209 Cascade off site.

1218 call Joe T.

discuss field line - lost core ~

discuss box truck w/ Joe -
Should talk with Skarwin

1236 End call

80 RMS
1-31-22 Monday

1251 Cascade back,

1311 RMS collect bulk

Samples from core in 240lb
plastic bags. Every 10',
0-200'.

Note lithology change from
VF sand and lean clay to
SP and SW, very loose, no clay,
w/ some gravel. Note, the loose
sand has no HCL reactions
whereas the sand/silt/clay has
strong HCL reaction. Could
be the Alluvium/SF group
contact.

Contact approx [160'] bgs.

~~1324~~

13

RMS

81
1-31-22 Monday

1316 Driller will call around
to try to find the correct
gauge to replace on panel.
~~Cascade off site.~~
No, still on site, making
calls.

1328 Driller will cap the
line and keep drilling. Yes,
good decision.

1333 Line capped. Resume
drilling - ready to TOOTH with
core 215-225 that fell out
of the core vessel 1344. See p. 78.

1336 - Forklift to move water tank
from east side of site.

From "Tech Memo" Nov 19, 2021

Sierra Ladrones Fm
of the Santa Fe Group -
Ancestral
Rio Grande axial fluvial
sediments

Piedmont slope deposits up to
200' thick, underlain by Sierra Ladrones
Fm.

84 1-31-22 Monday

1544 greaso fitting

Replace pressure gauge.

Greasing the fitting.

1555 Start rig. see if the gauge holds pressure.

• 1 x 10'

Vibrating down very slowly.

Try to catch the core the fell out this morning 215-225.

Chatter @ ~ 218

1600 + 1 x 10' continue vibrating, barely turning.

1619 (-) 1 x 10'

TOOTH

1631 12 min TOOTH

See core barrel

Hope for sample - - -

1 x 10 10

10 x 20 200

1 x 20 20

1635

CSG 0197

No Core retained.

Discus all in driller. Options for tomorrow. Add wats, lower casing

Rmg 85
1-31-22 Monday

Summary 1-31-22

• H & S Mtg

• Core 205-215

• Log 205-215

End 215

Start 205

10'

• Mechanical issues

• Oscillating gauge hydraulic fluid leak

• Grease piston gauge to hold pressure > 2400 psi

• Cut core 215-225

but no recovery. Change to auger shoe bit, but still no recovery.

• Collect bag samples every 10 ft from core

Tomorrow 2-1-22

• Continue coring

• Continue logging

86 RMS
1-31-22 Monday

1705 Cascade off site

RMS:

- ✓ Summary
- ✓ Text to AH
- ✓ Sync PLOG - Success

1721 Site is secure.

RMS off site.

1728 AOP Security "James"
on site 6-6 ✓
pm AM

See photo.

~~Photo~~

RMS
2-1-22 Tuesday Cloudy, Mild 87
~ 33°
Storm later

0605 to site

0620 on site

✓ prep H&S

To do

• Resume coring

• Call @ 0900

• Log core in PLOG on tablet

0640 Walk around site.

All is well.

✓ unlock cables on fence and
outhouse.

0650 Call from Driller - will
be a little late.

Says he will try the Flapper bit
to retain the sample, per
advice from another driller with
experience here.

0700 Cascade here

0710 Safety Mtg

INTERA ✓

Cascade ✓

Review cold weather coming - get
hard and foot warmers.

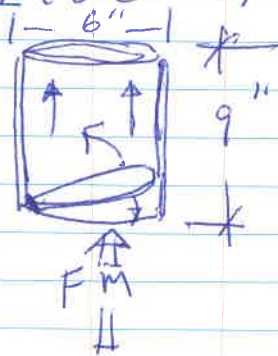
OB RMS

2-1-22

Tuesday

0719 Move forklift out of yard. Driller will install the new gauges on control panel.

See Flapper bit - photos.



0740 Rig warming up.

Fuel the rig.

Talk w/ driller, gauges installed. (RMS call @ 0800.)

Drilling field manager may come to site next week.

0750 refueling complete.

RMS

2-1-22

Tuesday

809

0800 (T1H with flapper bit on core barrel.) Add csg 1 x 10'

Call w/ Joe T, Joe G.

- no core recovery 215-225
- flapper bit ✓
- use water?
- Sample gap (as in 206)
- axial fluid @ 1600 with loose sand/gravel

Joe G ~ flapper bit

Concerns for recovery.

Adding water? Cohesion.

More input in the sat zone,

No water unless the other methods don't work.

Drilling manager to core next week, yet, very supported of that.

Sonic is supposed to get good core,

0835 end call ✓

90 2-1-22 Tuesday

0835 Core 215-225
that was fell out yesterday,
using the flapper bit.

0844 TOOTH (20')

0848 Stop the trip
grease the piston gauge.
Continue TOOTH.

0900 Core barrel up -
dump to hopper. Cleanup
from 203-213.

0910 push csg 1x10'
[197 → 207] (seep. 84)

Csg going down OK.
Stk up ~ 2'.

0916 T 1H

0926 (10 min)
begin "cutting" core
with the flapper bit.
vibration and chatter,
moving down slowly.
very slowly, with heavy
skin vibration, no rotation.
some chatter.

0940 core down (14 min)

RMS 2-1-22 Tuesday 91

0940 TOOTH

This may be a cleanout run
to collect the material in hole
caused by installing the casing.
We will see. Even as a cleanout,
it will be a good test of the
flapper bit.

rods 10 x 20 200

core 1 x 20 20

220 - 5stk = 215

0954 Core barrel was full,
dumped to hopper. Wm. Cleanout
to 215, but, was very hard
on the rig, according to the
driller. He wants to go
back to the open shoe bit,
but not vibrate to bring it up.
OK.

This will be the loose material
from 215-225 that fell out
yesterday. If it does not
work, then back to the flapper
bit. RMS suggest + try flapper,
but KR wants to go back to open bit.

2-1-22 Tuesday

0957 T1H

1004 RMS call Sharwin

10 Box truck - Cliff can
deal with it.10 Security contract
ad Cost to Joe T PM10 Drilling manager to
site next week - Cliff Hillman
heading here tomorrow!Phone is off and her mailbox
is full!1008 1 x 10' rod for
215-2251020 Cutty core - slowly,
Chatter, slow rotation.
Using the open shoe bit.A lot of chatter @ 225,
1023 Kelly down ~pull up - try to pull up
without vib, but won't
come up. - Now up -
Need slight vib and
bump up.

2-1-22 Tuesday

1025 T00H Hope sample
Still in the core barrel.Rotate back down - heavy
chatter. Vib down1027 Bump up without vib -
Steady rotate, free,
T00H hoping for sample.
1 x 101039 Core up, ^{Some core.} ~~no core~~
Collect in 5', lower
5' of core fell back into
hole.

1051

Driller add CS9 1 x 10'
207 + 10 = 217 (?) 225^v
will clean out hole to ~~225~~ 215
with a cleanout run, get
back to new formation at
225 and try to cut a new core.
225-235. ok.RMS Log core as 215-225Note! CS9 @ 217 220
= 2' below 225

94 RMY

2-1-22 Tuesday

Jared Bryant
"State Investigator"
Depty Workforce Solutions

Ashiz about prevailing
wages.

Referred him to Joe
Tracy.

Threatened to shut
down the job.

1125

Text Joe T re Jared
Bryant.

1126 T1H for cleanout
to 225. Try auger bit
Note:

Kevin called Sharwin
re the State Investigator
and prevailing wages.

left message - her mailbox
is full.

CS9 drive to 227 created
loose material to cleanout.

RMY

2-1-22

Tuesday

95

1137 Cleanout to 225.
Major chatter; add vibrations

1156 T00H

1207 Core barrel up (11 min)
dump to hopper.

Used flapper bit to clean
out to 225. full
core barrel. Note, was already
loose material, but still
was able to obtain 10' of
sample. Dump to hopper.

1215 Cleanout to 225.
Cascade take lunch. Will
resume @ 225 with Auger bit!

Check pipe on Tonda Truck:
CS9 4 x 10' x 3"
Rods 10 x 10' x 3"

96 rms
2-1-22
22

Tuesday

1255 Call w/ Austin ✓

1315 Ready to core
225-235.

Vibrating down slowly, heavy
Chatter @ 230-235.

1330 (15 min) Lifty,
avoid vibr. Come up,
back down, lifty up.

1333 Note: Adjust sample
interval to "7s", i.e.

225-237.

Driller thinks hole is staying
open better, (with casing @ 227),
hoping for sample in core barrel.

1334 TOOH

1345 Core up - sample? Yes!

1353 Full core - yes.

Add CSQ 1 x 10' = 237

1410 T/H for next sample(?) or
cleanout from adding CSQ.

Discuss with driller. Go for sample
and use bottom 10', 237-247.

Drill slough above.

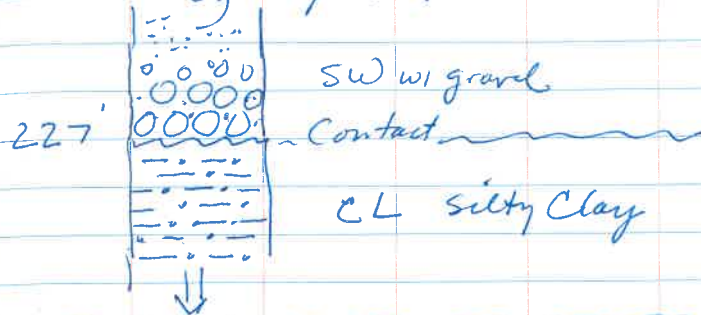
rms mm
2-1-22 Tuesday

97

1400 Log core 225-237.

Note Contact with sand/gravel
to sandy clay @ 227.

Basal gravel with clasts to 2",
basalt, very dense, tr. olivine.



1428 Coring 237-247 - No chatter,
moderate chatter @ 245-247. Back in
sand and gravel?

Pull up easy.

TOOH

1 x 10'

1440 Kelsey Buchel onsite

1446 Core up. - NO, to hopper. -
decided to make it a clean out run.

Sample stayed in the hole.

Will trip with flappa to recover

237-247.

Rm 2198
2-1-22

Tuesday

1500 Corey 237-247
using flapper bit to
recover 237-247 that fell
out on the last run.
Heavy chatter @ 240+

1509 TOOTH

1519 Core up (10 min)

Log Core. 237-247

1535 Add CSg 1x10'

1540 237-247 logged ✓
still driving vibrating
casing to 247. ✓

1543 casing down, stk ~ 3'

Note: 2x10' CSg remain on
Tender truck.

1551 Kelsey Bickel off side.

TIH for next ~~start~~ cleanout,
from slough from adding
casing.

2198
2-1-22

Tuesday

99 89

From P. 69

Time	Tuesday	Interval	CSg
1345		225-237 ✓	- ✓
1527 (1:48)		237-247 ✓	237 ✓
1 x 10 = 10			
11 x 20 = 220			
1 x 20		20	
		240	
		250 - 5 = 245 (247)	

~~1527~~

cut 2-1-22 * 247-257

2-2-22 Wednesday

0845 core up * 247-257 (10')

Cliff 1350 core up 257-270 ✓ (13')

Cliff 1430 core up 270-279 (9') (40m)

Cliff 1540 core up 279-285 (6')

Cliff 1638 core up 285-296 (11')

2-3-22 Thursday

1540 core up 296-305 (9')

1645 core up 305-~~315~~ 312 (7')

2-4-22 Friday

0910 core up 312-317 (5')

1129 core up 317-325 (8')

go to page 121

98100
2-1-22 Tuesday

1607 TOOH

1617 Continue TOOH.

1623 T1H? yes,
already dumped to the hopper
for clean out. Trip back
in for sample 247-257.

1633 Coring @ 247

major chatter @ 247, (see
gravel in bottom of previous core).

Vibrating slowly.

Chatter @ ~ 252.

1638 Still coring, reaming a bit.

1643 Kelly Down - pull up, Trip out.

1650 End for day. Sample in core
band,
Tomorrow.

• pull sample 247-257.

• pick up csg in AM. tonight
for tomorrow. 4 more + 2
= 6 = 310 total.

• rods and 7" tomorrow
afternoon.

1700 Cascade off site.

RTMS ✓, Scene site

✓ Summary

✓ Text

✓ Sync - Success

RTMS
2-1-22 Tuesday 10199
RTMS

Summary 2-1-22

- H & S mtg
- Core and Log (log 30 ft)
End 257
Start 215
Total 42
- Hosted Kelsey Bicknell
- Pick up more 8" csg
at Peralta yard (after hours)

Tomorrow 2-2-22

- Continue coring, goal 300'
- Load csg
- obtain additional
rods and 7" csg to
telescope hole after 300'
- Expect possible weather delay

100 RMS

2-1-22

Tuesday

1730

Call w/ Sharwin

- see p. 92 for
- Joppis core.

1741 RMS off site

32°F

2-2-22 Wednesday Snow
 "Groundhog Day" Wind

0605 To site

0625 on site. Walk around - ✓

0700 Cascade on site

0705 Safety mtg

- snow & icy, cold, wind.
- slick roads coming.
- take break to warm in truck
- get warm gear tonight

0723 Start rig and tender truck.

0725 Fuel the drill rig

0730 RMS to store to get salt for the deck of the tender truck.

0827 Back to site with salt for tender decks

2-2-22 Wednesday

181

0830 Temperature at site = 32°F

Cascade trip out of hole (700ft) with core 247-257, cut yesterday.

Export	12 x 20	240
--------	---------	-----

	<u>1 x 20</u>	20
--	---------------	----

		<u>260 - 5 = 255</u> (257)
--	--	-------------------------------

0845 Core up 247-257

Add CS9 1x10'

0908 Log complete ✓

Lay out on table previous 30' of samples for context.

0915

Call w/ Joe T -

- Summary - need to include all line items.

- Workforce solutions
 JT will document,
 will call

102 RMG
2-2-22

Wednesday

0920 driller will cut sample without separate cleanout run. X ft of slough, will not be collected.

0935 email Austin to revise summary from yesterday.

0939 TOOTH w/ sample (?) wind coming up, light snow.

✓ 0950 Call "505" for outhouse service. left message.

1000 Talk w/ driller. Trapped out but only had the slough, no fresh core with so that was a cleanout run. will go back in w/ auger bit to cut the new sample 257-267.

JIH

1000 Jason Moore has cold feet, will sit in Cascade truck to warm up.

RMG

2-2-22

Wednesday

103

1005 getting windier, snowing 30°
Tripping in for sample 257-267.
1014 Coring now
1030 28°, wind ~ 20 mph.

Trip out pause, repairing the curing crane on the tender track drill head.

Jason out of truck, Anthony in truck to warm up.

1040 Bolt on the "head" on the rig sheared off. Driller will take early lunch to get a tool to remove the bolt (tap) - and also other bolts that are new and good quality to replace the other bolts.

Still snowing moderate-heavy, with wind, 28°F.

1100 Call w/ Austin.

He will revise the summary with visit from Kelsey yesterday.

1130 Weather clearing slightly, less snow.

104 RMB
2-2-22 Wednesday

1210 Call w/ Austin -
• discuss water in core barrel
• discuss sequencing of fence
at end of project, pick up
notes by A&S, etc.

1210 Cascade back w/ parts
(1.5 hr) incl lunch.

1217 Bolt replaced. See
on the head. Discuss with
Kevin.

1220 Weather moving in again.

Resume drilling ops, core 257-267.

1225 Cliff Hilman, Cascade
here for drilling ops support.

1243 Struggling to pull up
the drill string.

Cliff Hilman now operating
the rig.

JOOH.	to	270	1x10	10
			12x20	240
			1x20	20
				270

+
1x10'

RMB
2-2-22 Wednesday 10307

1250 NO Sample in core barrel.
(change to another bit.
Open face but built up
on OD, should allow it lift
up without the vibs. Cliff
brought the bit and will try it.
Change the piston gauge. Had
a spare.

1309 T 1H with new bit.
Sample is now loose in
the hole 257-267.

1320 Add 1x10', Kelly Down.
(neighbor)

Angela will make hot
coffee for the drill crew.

1323 drilling over the loose core
in the hole. Will try to
retain in core barrel to
bring up.

1327 Add 1x10' rod

Try to get some fresh sample
in the core barrel. to 272? 270

1334 T 00 H - hope for sample.

768 RMS
2-2-22 Wednesday

1340 Talk w/ driller.
Added the 10' rod to
sample an additional 3 ft
on this run, to get fresh
sample in the barrel and to
enlarge the hole diameter with
treated bit. The enlargement
should allow the drill string
to come up without needing

1345 Neighbor Loretta observed
a road closure sign blew down.
RMS stand it back up.

1350 Core up 257-270 ✓
T.H.

1405 Back on bottom for
clean out or sample. @ 270

1412 Cutting sample now - 270-280

1420 28°, 15-20 mph wind,
light snow.

1422 T.O.H.

1430 Core up. 270-279

RMS logging core. Add 1 x 10' csg

107
Tomey
2-2-22 Wednesday
1440 Pick up 4 x 10 x 8" csg
from truck.

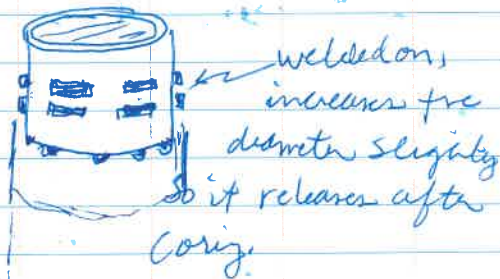
Log core in truck. Too cold
and snowing for tablet outside.
See samples on table.

(See p. 99 for core record.)

1456 Core logged 270-279 ✓

1500 casing x 4 loaded onto
tender truck. Move truck
back into the yard. Continue
T.H.

1503 Cliff turn drill back over
to Kevin. Spot tender
truck back into the yard.
Note: the "built-up" bit
seems to be working. Open ball
with ridges welded onto the sides.



108 ^{rmg} 2-2-22 Wednesday
1506 add 1 x 10' rod, for
next core @ 279-289 285
Cliff opening again for core run.
Chatter and grind @ 279'''

1525 T00H

1540 Core up 279-285 (6')
Add CSg 1 x 10'

1553 Core logged 279-285 ✓
SP, (well sorted) poorly graded,
no gravel. Very soft and loose.

1556

T/H for next sample or
cleanout. Cliff does not
cleanout as Kevin does.

The slough comes up on the
top of the core and is discarded
to the hoppers. driller knows
how much was slough (in fact)
based on depth when on bottom.

For example, if bottom of core
was 285, then added CSg creating
slough, then depth may be 283
when back on bottom, so there is 2 ft

of slough. If core is 283-295, then
sample is 285-295, dump top 2 ft.

2-2-22 Wednesday

109

1606 coring now

25°F

1618 still coring 1620 Tooth wind 10-20 mph

1628 Talk w/ Kevin

- Box truck tomorrow
- Cliff will be here ~~at~~ the trough
Friday.
- Tomorrow need to load 7" CSg
to continue below 300'.
- Still fighting the sample-core-
- The built-up bit won't work
in the 7" CSg.
- Prepare for even colder temps tomorrow
- Kevin to take helpers to get
cold weather gear tonight.

1638 Core up 285-296 (11')

1650 Add CSg 1 x 10'

Snowy hard.

1705 Snowy hard. 24°F

1710 Cascade off site

110

TRMS

2-2-22 Wednesday

Summary 2-2-22

- H & S mtg
- Core and Log

End	296
Start	<u>257</u>
Total	39
- Cliff Hillman, drilling manager, on site, drilled/cored 39 ft.
- Heavy snow at end of day
- Cascade pick up 7" casing at yard tonight

Tomorrow 2-3-22

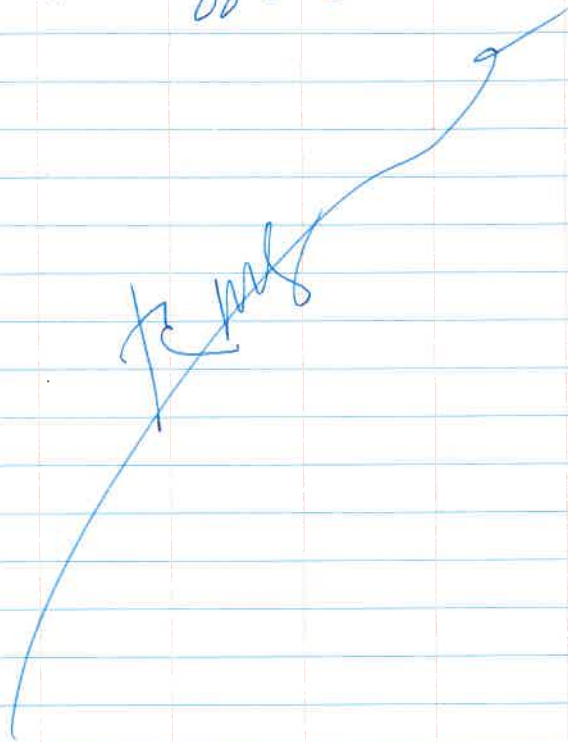
- Continue coring and logging
- Change to box truck
- Continue support from drilling manager

2-2-22 Wednesday

111

- 1730 ✓ Photo Summary
 ✓ Text to Austin
 ✓ Sync plog
 ✓ Scene site
 ✓ Labs are frozen

1731 TRMS off site



112 2-3-22 Thursday 10°F

~ 0800 Call w/ Joe T -
Notify Team when starting
work or update by 10. OK.

0930 RMS to site
Snow overnight. Cold, < 10°F.
Roads closed or icy.

1003 on site. Roads are
snow packed, traffic moving
slowly.

0945
Call from Kevin Rogers, Cascade
driller.

Box truck is enroute to
the Peralta Cascade yard.
Crew will load pipe into
that truck then drive to
the job site. Will update
when leaving the yard.

1010 Text update to Joe T.

1020 Email update to Joe T.

1030 Walk around site.

113 2-3-22 Thursday

1030 Sweep snow from walkways
on site. Sweep sidewalks.

1045 Call w/ Austin/Hannon.

Calculate est. DTW @ 460,
based on work on Kentucky St,
last year.

Est tag water late next week,
assuming ave 50 ft core/day.
Push Ahead samples.

$$\begin{array}{r} 600 \\ - 460 \\ \hline \end{array}$$

$$140 / 5 = 28 \text{ ft / push ahead sample.}$$

1 480

2 516

3 544

4 572

5 600

Currently @ $\frac{460}{300\text{ft}}$
 $\frac{160}{50}$

(Assume 50/d.) = 3-4 days.

Possibly Tuesday or
Wednesday next week.

1130 Text to Kevin for update.

1210 Call Kevin for status.

ETA 1:00 PM. OK

1213 Text to Joe T. update.

1304 Cascade on site

1325 photo of 7 inch casing truck.

Count $35 \times 7' \times 10' = 350'$

114 RMS
2-3-22

Thursday

1340 Start drill rig
Very cold.

- Cliff Hillman
- Jason Moore
- Anthony Meers

1353 Kevin here with trailer,
and forklift key!

1405 Box truck into place. (Fits)

1420 Fuel the drill rig.

1454 Safety Mtg and
sign in for Cliff Hillman.
Dinner duty.

Will collect 2 more cores
before switch to the Tim csg.
Csg currently at 298 #.

1500 T1H for core @ 296-306

1515 Cutting core.

1530 T00H w/ core

1540 Core up - vils sand out
of the last rod. 296-305

1553 Add csg 1 x 10 x 8"
 $298 + 10 = \underline{\underline{308}}$

RMS

2-3-22

Thursday

115

1554 RMS log core 296-305

T1H Add 10' rod

1613 coring? 305-315 (312)

Soft, maybe cleanout.
Add 10' rod

1626 Core is cut

T00H count pipe

$$15 \times 20 = 300$$

$$1 \times 20 = \underline{20}$$

$$320 - 5 = \underline{\underline{315}}$$

1645 Core up 305-312

Populate chip tray to 310'

1655 core logged.

Very cold!

1700 pipe in the hole, ready
to core in the AM.

• Secure to site

✓ • Locks on cables are frozen

1720 Cascade off side

• Photo Summary

• Text Austin

1730 Sync Tablet - Success
RMS offsite ✓

116

Tomy

2-3-22 Thursday

Summary 2-3-22

- H & S Mtg
- Load casing (7") 35x10' on to Box Truck at Peralta yard
- Move box truck onto site
- Core and Log
End 312
start 296
Total 16

Tomorrow 2-4-22

- Core 0-300 to roll off
- Continue Coring and Logging
- Install T" csg below 308'

Tomy

2-4-22 Friday

Clear 117

Cold

10°K

0600 To site

0620 on site

Cascade is on site, early, to make up time for leaving early this afternoon, to catch flights.

H & S Mtg
FRIESTRA
Cascade

- cold
- hand plannet
- spot the forklift
- dumping the hopper

Today

- dump the core
- dump the hopper
- continue core
- Next week - water @ 460
 - Sample 1st water
 - Push aheads below that 45 to bed

118 2-4-22 Friday
0705 Riggs warming up.
RMS collect bulk samples
every 10 ft from 210-310.

RMS salt the sidewalk next
to the fence and geo table.
Fuel the rig ✓
0730 Joe Tracy on site.
Finish collecting bulk samples ✓

Crew dump the hopper - soil
is frozen solid in the hopper -
won't dump. Need to break it up.

0800 Crew dump core into hopper
and then to rolloff. ✓

0836 Finished dumping core into
rolloff. Move box truck back
into place. Hopper is back under
the rig.

0837 begin core 312 - 317
47

0856 T004
JT 5# site

RMS 2-4-22 Friday 71

Water leak @ 808 - Plowing this
Justin Britelle, AM.
Water Authority -
fixed water main leak at
house @ 808 Indiana,
home owner Angela.

0910 Core up 312 - 317

It helps adjusting position of
the hopper under the deck.

0935 Start to run the 7" CSQ
Attach shoe onto end of the 7"
for driving.

0952 Core logged. SW w gravel
to 2.5 inches, weathered
basalt and quartzite.

T.I.H w/ 7" CSQ, down to
TD @ 317 = ~ 31 x 10'

1005 Crew thawing electrical
cables at exhaust from drill
rig. stopped installing CSQ?

RMG
120 2-4-22 Friday
1010 Resume 7" CSF
1030 Still initially casing.
1048 CSF installed.
T1H core barrel & rods
to get next sampler
1057 begin to core 317 →
1110 T00H

1126 Call for outhouse service.
was cleaned on Sunday. Ok,
stay on 7-day schedule. ✓

Patty and Bennie (dog) walking
around the neighborhood.
Sidewalks are slick.

1129
Crewup 317 - 325 ✓ 8'

1150 put the "wedding band"
onto the 8" CSF at transition
from the 8" to 7" CSF so the
7" does not chase the hole
down.

1151 T1H

1210 Coring 325 →

1215 Arrive Wahi (INTERA)
on site

RMG
2-4-22 Friday 171

from P. 99

2-4-22

Time	Friday (cont'd)	Depth
1400		325-329 (4)
1516		329-340 (11)

Monday. 2-7-22

5	1138	340-345 (5)
16.5	1239	345-356.5 (11.5)
22.5	1442	356.5 - 367.5 (6)
27	1550	362.5 → 367 (4.5)
32	1641 (CSF 347)	367 - 372 (5')

Tuesday

2-8-22

	Time	Depth Interval	Length	CSF
KR	0926	372 - 375	3	
KR	1025 (59)	375 - 386	11	377
KR	1140 (1115)	386 - 395	9	387
KR	1358	395 - 405	10	397
KR ^{20.5}	1515 (1117)	405 - 412.5	7.5	
KR	1655	412.5 - 417	4.5	
			45'	

go to p

122 ^{RMS} 2-4-22 Friday
1220 Security officer
Cpt Logan checking in.
Had report that security was
not here at 6 last night.
He will ask for officer.

1232 Still corrig.

1235 T OOH

1240 Cliff and Anthony
leaving to drive home
to Texas. Cliff will be
back next week. Anthony
will not be back next week.

1300 16 x 20 320
1 x 20 340
340 - 5 = 335

325 - 332.5 - No Recovery

1302 Core up - All Fell Out.
Switch to "build up"
bits, need to check if it
will fit in the 7" CSQ.

1311 Test the bit in the 7" Foot

1315 Talk w/ neighbor Angela.
She thinks the vibration from
the drill rig caused her water lines
to break. Referred her to the WA.

123 ^{RMS} 2-4-22 Friday

The build up bits did NOT
fit down the casing.
Switched to the other bit.

T 1 H

1334 Vibration over the sample lost
325 - 332.5. Try to capture
it in the core barrel.

1340 Rotating up to recover core
without vibrating.

1343 T OOH, unstack.

1400 Core up 325 - 329 (4')
4 ft recovered, bottom 2 ft
fell out of core barrel.

CSG 327

Cored to 332 but 3 ft
fell out

Cascade helper Jason Moore
is feeling sick - from lunch.
I threw up, and using the outhouse.

1415 T 1 H / No, will add CSQ.

Try to compact. Add 1 x 10' 7"

1425 Core logged (4') 325 - 329 ✓

1425 Aaron Wahi off site.

124 2-4-22 Friday

1430 T1H
1440 Coring now 329-

Note: Truck 1560/30 = \$52/d Enterprise
325/7 = \$46.42/d

Total \$2595.12 6 weeks
= 42 days 2595/42 =

Ave 61.76/d.

1450 T00H with Core?
329-

1516 Core up 329-340 ✓ SW
w/ gravel & cobbles.

1520 T1H, 1530 in hole.

1540 Cascade crew finish
for day, to make to flight
at 6 PM.

Log core 329-340 ✓

340
312
—
28'

2ms
2-4-22

Friday

125

✓ • Secure the site
✓ • Photograph 312-340
Samples on table, SW w/
gravel and cobbles.
1610 Cascade off site.

✓ • Summary
✓ • Photo
✓ • Text to Austin
✓ • Sync Log - Success ✓

R. J. [Signature]

RMS
176 2-4-22 Friday

Summary 2-4-22

- Core and log
End 340
Start 312
Total 28
- Trip in 7" csg to 320'
- Secure site for weekend
- Dispose core 0-300' in rolloff

Next Week 2-7-22

- Continue coring and logging

1645 RMS off site.

~~RMS~~

RMS 2-7-22 ~~WMM~~ Monday 22°F ^{Clean} 127

0620 To site

0640 on site

Call from Cascade driller, loading casing at yard.

✓ Prep H₂S forms

0700 Walk around site

inspection, - all OK

Note: AOP security vehicle is parked near site but no one is in it.

Sunday AM (yesterday) the Enterprise rental truck had a dead battery. I used a battery charger overnight and the truck started this AM, got to site. I requested Maggie Scott to obtain another rental truck so I can swap this one out. Strong smell of sulfur now in this vehicle.

128 2-7-22 ^{RMS} Monday

0730 Cascade on site.

0730 H & S Mtg

Csg @ 327

1766 @ 340

- Bulky clothing - reduces movement and peripheral vision.

• Driller left keys in Texas so had to break into

Cascade truck at the airport.

0750 Start drill rig and box truck to warm up.

Cascade crew is short handed -

only Kevin Rogas and Jason Moore,

Cliff Hillman and

Anthony Meers are traveling by vehicle back from Texas so expect to be here mid day today.

All rods are in the hole, will begin by coring

340 - 350 ±.

RMS
2-7-22

Monday

129

0806

Box truck battery is dead! Cascade borrow RMS jumper cables to jump with fire fork lift.

See csg 7" on trailer =

11 x 10' x 7" = 110'

0825 Box truck started.

Kevin says the ignition switch is defective, says he wiggled it and the truck started!!!

0900 begin drilling / coring add 1 x 10' rod.

0945 Call w/ Joe T re water leak. Discuss all. See Jerns notes on p. 122. ✓

0915

Call w/ Maggie - she will Text with plan for swap rental truck.

0934 Kelly Down -

130 2nd 7-22

Monday

0939 T O O H

$$1 \times 10 = 10$$

$$16 \times 20 = 320$$

$$1 \times 20 = 20$$

$$\text{Core barrel} = 21' + \frac{1}{1}$$

$$\text{Drives with driller: } 351 - 3 = \underline{\underline{348}}$$

$$\text{Stick up} = 3' \text{ (not } 6')$$

When he runs all the way
down, ok

So, calculation²

$$\begin{array}{r} \text{Total + Rods} \\ + \text{Core barrel (21')} \\ - 3' \end{array}$$

Ends on 8 8 ends on
the 8'

1000 Core up -
Core barrel is Empty, all
fell out.

Will add 1x10' casy,

$$\text{cs to } 327 + 10 = \underline{\underline{337}}$$

Driller expects this to
help retain the sample. Ok.

Lomas

7-7-20

Monday

131

1030 Cascade crew trying to
get water from their water
fate on trailer. Horse of is filled
with ice.

1037 found a different horse.

Install casing 1x10 to 337.

Took 37 min to get the
water to help with the casing.

1053 T I H

1105 Corrig again to get the
sample that fell out. 340-348.

Grinding and chattering on
the loose gravel and cobbles.
Vibrating down.

1115 T O O H

1130 Core up. 340-345

1145 T I H

RMS logging core. SP w/ Tr gravel.
Gtite, white chalcedony.

1158 Coring 345 \Rightarrow =
Vibrating down slowly

1130 Text from Maggie - new
rental is available at Lomas
Enterprise 9433 Lomas

132 RMS
2-7-22 Monday

1210 Core is cut.

Trying to pull up.

1212 pulling up now. 10',
then back down w/ vibrate

1223 TOOH Hoping for sample.

Note: Continue bulk sampling

③ 320'

RMS call AOP Security to
have them move their vehicles
OK. ✓ Too congested where
it is, more further south when
not being used.

1239 Core barrel up 345-356

345-356.5 but
missing 345-350, (5')
retained 350-356.5

1247 RMS to rental, Wisconsin
Cascade take lunch. RG4066

1330 Back to site, Lunch.

Cascade resumes, T1H

1355 - Not T1H?

RMS
2-7-22 Monday

133

1355 Set up Bluetooth in rental.

1357 Now T1H.

1409 Coring Now.

RMS log core from before lunch.

345-356.5 ✓ logged ✓

1418 Vibrate down slowly,

Chatter, w/ rotation.

Down 1/2 way, try to pull up/down,
up/down, stick, rotate,
pull up.

1423 TOOH 1425 Pipe is free TOOH

1 x 10' = 10

- 17 x 20 = 340

1 x 21 = 21

1442 Core up 371 - 3 = 368 (✓)
1458 356.5-362 362.5 ✓

Calc at 337 + 10 = 347 ✓

See p.121

1500 Disassemble w/ Kevin.

Wasa gap 350-356.5, this
was lost, but bag was labeled.

Should have been labeled 345-350.

This was returned. Ran in again
to try to get 350-356.5, got it,

but lost it out of barrel, could not
bag it.

134 2-7-22 ^{RMS} Monday

Cont'd

so recovered the bottom of that run

Retains 356.5 - 362.5 (6')

Graps 350 - 356 assume
same lithology → SW w/ tr. grad.

Continue -

RMS log 356.5 - 362.5 (6')

1509 RMS log core 356.5 - 362.5

1510 T1H for next core.

CSS is now at 347 $\Delta = 15.5'$
open hole.

1528 (18 min T1H)

Coring @ 362.5 →

1530 Grinding and chattering
in core zone below 362.5,

1535 Note: Cliff Hullman
and Anthony Meers have
not arrived yet. Were expected
about 1500 pm

1538 T00H

^{RMS} 1545 2-7-22 Monday 135

1445 Cliff & Anthony here.

^{RMS} Note Cliff is not here.

1530 Core up 362.5 - 367 (4.5')

RMS log core T1H

1606 Core 367 - 372 (5')

1613 Core logged 362.5 - 367 ✓
includes gneiss w/ sulfides.

1616 Now Cliff is here. ...

1621 Kelly down - pull up - tight.
pipe free. T00H

Rody 8 x 20 = 360

CIS 21 $\frac{21}{391 - 3}$

1641 Core up. 367 - 372 = 378

Core logged 340 - 367 - 372

Today 340 - 372 = 372'

1655 Pipe in the rack.

End for day.

Box truck won't start -
started.

1715 Cascade off site

836

RMS

2-7-22

Monday

- ✓ Site is secured
- 1720 ✓ Summary
- ✓ Photo
- ✓ Text to AH
- Sync Plog

1730 Call Joe T.

re Safety forms.

Joe here tomorrow for forms.

1745 - end

1742 Security here.

Anthony show him
the site ✓

1748 rms off site.

RMS

RMS

RMS

2-7-22

Monday

137

Summary 2-7-22

- H of S mty
- Core and log

End 372

Stand 340

Total 32

Tomorrow 2-8-22

- Continuous Core and Log

138

RMS
2-8-22

Tuesday

0615 To site

0632 on site

Prep for H & S mtg

0640 Cascade on site.

0655 H & S Mtg

✓ Cascade discuss casing depth

✓ INTBIZ

0713 RMS walk around the site. See fence is open from overnight out-house use by fire security guard.

RMS move traffic signs closer to fence on Kathryn.

Pipe in the rack.
Cascade starting rig and box truck.

Hole @ 372' $\frac{600}{370}$

Est TD week #5 $\frac{230'}{30'} = 7.66$ d
includes 2d
15 hrs Push ahead water samples

RMS

2-8-22 Tuesday

139

0720 Joe Tracy on site.

0735 Box truck started.

0818 Joe Tracy off site 1-24-2-7

Safety forms to JT to scan for Noreen.
Dumpster swap Friday this week.

$$9 \times 2 \times 20 = 360$$

$$1 \times 21 = 21$$

$$381 - 3 = 378$$

When trip in, will be
ready to cut core 372-378 ±

0826 CS7 1x10' $347' + 10' = 357'$
 $357' + 10' = 367'$?

0834 T/H

0850 Still T/H T/H = 19 min

0853 Begin core @ 372

0900 Call for out-house service
505 859-5767 left message ✓

0907 Core is cut TOOH

hope to retain sample...

RMS bag bulk samples 320-370,

Zip lock bags.

0946 Kelly Down cutting core
375

140 RMS
2-8-22 Tuesday

0926 Core up 372-375 (3)

0932 T1H

RMS log core 372-375

0946 Kelly down

Outrig Core 375 - (18 min)

1004 pulley up - TOOH

1025 Core up end 375-386 (11)

1037 Add csg csg @ 377 now.

1040 T1H

1049 Core logged 375-386. Note
1st granitic clast in entire core.

1107 Begin Core 386 -

major chatter and grinding -

note: cobbles to 3" at 386
from previous core.

1115 TOOH

1140 Core up 386-395

1155 Talk w/ Kevin.

1200 Cascade take lunch ✓

1215 Core logged 386-395 ✓

RMS 2-8-22 Tuesday 141

1215 Dump Rollott tomorrow afternoon.

✓ Email to J.J.

to dump rollott Wednesday
afternoon.

1233 Cascade back from lunch.

1241 Add csg 1 x 10' 7"

1250 T1H. Patty and Bennie (dog)
waiting by

1303 Begin core 395-

1331 still trying to TOOH -

no pipe in rack. core barrel

stuck? Free ✓ 29 min core

1332 1 x 10' ✓

1354 mud in last 20' rod before
core barrel. Helicopter circling site.

1358 Core up 395-405 (10')

1410 Add csg 1 x 10'

T1H.

RMS log core 395-405 ^{sup.} 121
purple, grt-rich volcanic ⁱⁿ gravel.

1427 Core logged ✓

1430 Begin csg Trip: 20 min

1447 Core cut, bumping up.

TOOH

142 RMS
2-8-22 Tuesday

1515 Core up 405-412.5 ✓
Drill crew change the jaws (7.5')
on the vice x 8, chewing up
the drill rods, has the spare parts
here. Ok.

1543 Core logged ✓
note cylindrical volcanic
clasts ...!

1618 RMS populate chip frag
to 410 ft, label next frag.

1615 Finish jaw replacement.

1620 T/H

1631 (11 min)

~~Coring - fast!~~

Add 1X10'

Now coring! major cobbles!
Cored Fast remove 1X10'

1636 T00H

Continue T00H. Jump the box truck.

1649 still T00H, but should
get a final core for the day!

1655 Core up 412.5-417 (4.5)

= Very loose - easy core, lost some
in the bags.

RMS
2-8-22 Tuesday 143

1712 Cascade trying to start
the box truck ...

1715 Log 412.5-417, Logged ✓
RMS patch up geo station.

- ✓ • Secure site
- ✓ • Summary
- ✓ • photo summary
- ✓ • text to Austin
- ✓ • Sync log

* the rig deck
1726 need to fix up the needs to be
drill rig for a minute to ^{moved to close} doors. *
Close the doors on the box truck.
Box truck ignition is "toast",
per Cascade.

Tried to jump start box truck,
but will not start.

Need a plan to fix.

1735 call w/ Austin

- Sample for roll off.
- drill 5' into water yes
- bailer
- GW parameters ~

1748 Text Joe T
re roll off. RMS off
site

144

Jones
2-8-22 TuesdaySummary 2-8-22

- H&S mtg
- Cored and logged
End 417
Start 372
Total 45
- 6 core runs

Tomorrow 2-9-22

- Continue coring and logging
- Potential to reach groundwater at 460' (43')
- Swap rolloff before reaching groundwater
- Collect top groundwater sample (if at GW)

1800 back to site to see to see if security is here.

RMS
2-9-22 Wednesday Clear 145
25°F

0600 To site

0620 on site. Security still here.
Pup H&S forms0632 Cascade here Hole @ 417
CSG @

- Box truck - ignition
- Roll off - will (Kuro) this AM
- 43' to H₂O (?)

0658 H&S mtg

- Box truck needs to be able to move. ... to dumphopper, etc.
- discuss jump starting a vehicle.
- red to dead
- red to donor
- black to donor
- black to black (dead)

Driller says he doesn't have fire bailer rope. Could not get at Home Depot. ...

RMS text Austin to bring a disposable bailer.

146 Rms
2-9-22 Wednesday

- 0725 Fuel the drill rig ✓
- 0730 Try to start the box truck.
- 0734 Start drill rig

Cliff Hillman (drill mgr)
was on site this AM but left
to deliver a core barrel to another
drill site in El Paso, yesterday
Kevin said Cliff would change
the ignition switch.

Dustin w/ Cliff says that
was changed when the truck
was in the shop last week.
0750 Rms walk around site -
all is secure. Some graffiti on
the road sign on Kathryn.

Driller attempting to start new
Box Truck (Freightliner).
Has an electrical tool box -
seems to be devising a
work around ... ?
was with alligator clips ...

0758 Call for outboard service ✓

Rms
2-9-22 Wednesday 147

0758 Box truck started
cost 0.5 hr.

" hot wired the truck

0809 Box truck moved ahead
Helpers have the hood open -
hot wire again.

Dump the hopper with
the forklift.

0822 Hopper dumped. Back up
the box truck, back in position

Ready to start T1H (Not yet)
Casing?

Talk w/ driller - says he has
disposable bailers -
but still needs the rope ...

0840 T1H

0852 Call w/ Austin
soil sample this AM.

0857 Begin Coring Core = 12 min

0909 Trying to pull up - bump up
OK, pulling up T00H

148 RMS
2-9-22 Wednesday

0931 Core up Full 417-427 (10')

0943 CS9 1x10'
KS & SR visit site RMS log cover

0955 Out house servie is here ✓

1005 Add rod 1x10'

1010 cutting core

1033 Kelly down, Bump up.

1035 T OOH

1055 Core up 427-432 (5')

T1H

1107 Austin Hanson here to
sample the rolloff.

Core logged. 427-432.
No gravel!

1110 Begn core

1120 Pull up - w/ vibs (?), vibing

Need to rent a water level 600'
meter. Garret Hanson

GeoTech 303 320 4764

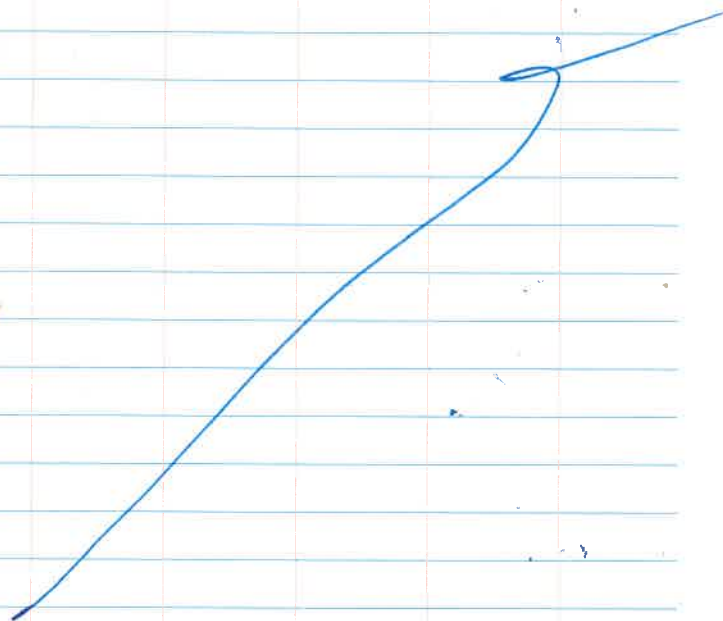
cell 720 334-1630

RMS
2-9-22 Wednesday

149

Time	Depth Interval	Length	CS9
0931	417-427	10	417
1055 (1105)	427-432	5	
1200 (1105)	432-440	8	427
1442	440-442	(2)	437 427
		<u>25</u>	437
			4

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~~118~~ 150 RMY
2-9-22 Wednesday

1140

TOOTH

1200 Core up 432-440 (8')

Note: Clay @ 434-435, brown
5YR5/4 Silt @ 438-440 brown
1217 Box truck won't start (again)

1232 Core is logged.

Lunch break.

1235 Cascade take lunch

1240 Call from Kelsey, WA -
re clone for water.

discuss when to sample -
wt or ASAP?

She will ask Diame Agnew
and get back to me.

1256 Garrett Hamon
Call Geotech for water level meter
left message - GRT cell
call GRT office hold for GRT
left message.

RMY
~~23~~ 9-22 Wednesday

~~149~~
151

1306 Call back to Kelsey
RMS collect sooner than
later.

per Diame, wt overnight
but up to INTERA.

RMS call Joe G.

call Joe G.

Joe G - some volatile
components - so sooner -

prefer ASAP - JG, JG. ✓

1318 Cascade back

1329 Add CS# 1x10' = 427 ✓

1338 T1H

1400 Begin core

1442 Core 440-442 (2')

1344 Call

email to Jet West Update -
✓ email directions. C UJT

1354 Call Geotech again -
Bob Stanley 750'
Overnight ✓

150
142 RMY
2-9-22 Wednesday

1423

Call w/ Andy Freeman. HEAL
EDB EPA 504.1
1 SF - 8011

24 hr TAT

1427 TOOH

Call with Austin
Hold time for 8011 EDB
→ 14 days
2x40ml VOA < 6°C

- COC ✓ - RMS at home ✓
- Sample today,
- deliver tomorrow

Call Joe T. - left message

1442

Core up 440-442 (2')

Very hard cherty (?), added water.
~~Sand~~ Advise chiller to not NOT
add any more water.

1454 TH

1520 Core logged 440-442 ✓.

151
153
2-9-22 Wednesday

1500 Call w/ JT -
He will let Diana know
that we may or may not reach/
sample water today. Hold time
is 14 days.

If we sample, we will keep
on ice in custody overnight
and deliver tomorrow. ✓

1510 Call w/ Austin.

Text him if we need it @ ~ 1600.
OK.

Joe He will confirm 24 hr TAT
for all ^{water} samples - per WP,
with JT.

1510 Coiling Now. 442 →

Very slow coiling, no chatter.
Vibrating down slowly -
chatter @ ~ 447 ±

1530 penetrating faster @ ~ 451 ±

1532 Cliff Hillman back on
site.

1535 Core is cut. Bumping up - tight
pulling up now.

154 RMS
2-9-22 Wednesday
1538 T00H
1 x 10

Cliff on the controls, lifting up
slowly; bump up, down.

1550 RMS call Relsey Bicknell -
advise reach water tomorrow.
TK, she will come @ 0800.

1600 Core up 442-444 lost
it!
Empty.

1603 A&S Has to
swap roll off.

1615 roll off removed ✓
Add CSS 1 x 10 to 437 ✓
Diems w/ driller - attempt
1 more core today, but not
to 460. Start flush tomorrow.

1610 T1H

1633 Roll off swapped with new/empty.
Needs to be lined - tomorrow
by A&S.

RMS
2-9-22 Wednesday
1635 Coreing now

RMS get ice in the
AM.

1636 Coreing now.
Try to catch 442-445 +

1650 Still coreing.
Talk w/ Cliff Hillman.
He is off site for Frank's back
next week.

1700 End coreing @ 445
CSG to 337, leave in hole.

1705 Cascade will load rods at
yard in the AM. OK.

✓. Secure site

✓. Summary

✓. photo

✓. Text A11

✓. Sync Plog

email Maggie re Fed & x delivery
water level meter, tomorrow.

1730 RMS off site.

153
155

154.166

2-9-22 PMS
Sum WednesdaySummary 2-9-22

- H&S mtg
 - Cored and Logged
 - End 442
 - Start 417
 - Total 25
 - Swapped Rolloff
 - Prep for water sample tomorrow
 - Sampled soil in rolloff
- Tomorrow 2-10-22

- Continue Coring and Logging
- Expect to reach groundwater at \pm 460 ft bgs
- Collect sample of 1st water

PMS 2-10-22 Thursday 30° 155
157

- 0615 To Site
- 0630 On Site
- Talk w/ security guard - no activity overnight.
- 0635 prep H&S mtg docs.

- casing/rods
- Core for water
- Sample 1st water w/ bailer
- continue coring.

Inspect Sample Containers -

- 0.5 ml Sodium thiosulfate
- 10A vial (2 vials/sample)
- Trip Blank (?) - does there need to be a Trip Blank for every delivery? it could be analyzed after all samples have been delivered.
- Start New Field Notebook

156
150

Handwritten signature or scribble in blue ink, possibly reading "K. H. G." or similar, written diagonally across the page.

Appendix