2350 W Marland Blvd Hobbs, NM 88240

Remediation Plan

NOT APPROVED

January 24, 2019

Re: Hawk B-1 Battery
API# 30-025-35799
Case # 1RP-5252

To: Christina Hernandez
Environmental Specialist-New Mexico Oil Conservation Division Energy, Minerals and Natural Resources Department 1625 N. French Drive Hobbs, New Mexico 88240

Background:

On 10/23/2018 a release was discovered due to gasket on the water leg of the fresh water knockout failed. An initial C-141 was submitted and approved by NMOCD on 11/5/2018. The Hawk B-1 Battery (GPS Coordinates 32.49164 -103.16801) is located north of Eunice New Mexico in unit letter K section 9 township 21S range 37E. A 2000 meter radius groundwater survey was conducted utilizing the NMOSE web page and USGS web page. There are four USGS wells located in section 9 with an average depth of groundwater at 63 feet below ground surface.

To date the release area has been excavated to a depth of 6 inches and all excavated material (12 yards) has been exported to a NMOCD approved facility. After the excavation was complete composite samples were collected in a 200 square foot radius and field tested for chlorides and representative samples were submitted to a commercial laboratory for analysis for chlorides, TPH, and BTEX. Due to the discolored soil still remaining at composite point 6 the middle sample was advanced to a depth of 1 foot utilizing a hand shovel (the only method available due to the presence of the fresh water knockout) in the area and submitted to a commercial laboratory for analysis of TPH and BTEX. The 1 foot sample had visual hydrocarbons but deeper delineation was not possible due to the hardness of the soil. The field and laboratory results yielded chloride values below table 1 standards (10,000 mg/kg) for releases 50 to 100 feet to groundwater. Hydrocarbons exceeded the table 1 standards at composite point 5 and the 1 foot sample at composite point 6.

Remediation Plan:

Apache Corporation proposes that the area inside the battery at composite point 5 and 6 be excavated to a depth of 1 foot. After excavation is complete in those areas final 5 point bottom composites and side wall samples will be collected not to exceed 200 square feet for the entire release area and submitted to a laboratory for analysis of chlorides, TPH, and BTEX. All excavated material approximately 50 yards will be hauled to an NMOCD approved facility. Apache will notify NMOCD 48 hours prior to collect final samples. Remediation will be completed within 90 days of NMOCD approval of the plan.

Enclosed: Initial C-141, Groundwater Data, Maps, Sample Data, Laboratory Results, Field Notes and Photos.

Submitted by;

Bruce Baker

Environmental Technician
larry.baker@apachecorp.com
Cell# 432-631-6982
Off# 575-393-7106

District I
1625 N French Dr., Hobbs, NM 88240
District II
811 S First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S St Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NOY1830928183
District RP	1RP-5252
Facility ID	
Application ID	pOY1830928473

Release Notification

Responsible Party

Responsible Party	Apache Corporation	OGRID	873
Contact Name	Bruce Baker	Contact Telephone	432-631-6982
Contact email	larry.baker@apachecorp.com	Incident # *(assigned by OCD)*	NOY1830928183
Contact mailing address	2350 W. Marland BLVD Hobbs, NM 88240		

Location of Release Source

Latitude 32.49164 Longitude -103.16801
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Hawk B 1 Battery	Site Type	Battery
Date Release Discovered	10/23/2018	API# *(if applicable)*	30-025-35799

Unit Letter	Section	Township	Range	County
K	9	21S	37E	Lea

Federal minerals

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☑ Private (*Name:* Milland Deck Estates)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☑ Crude Oil	Volume Released (bbls) 15 barrels	Volume Recovered (bbls) 10 barrels
☑ Produced Water	Volume Released (bbls) 3.8 barrels	Volume Recovered (bbls) 0 recovered
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release A gasket on the water leg of the FWKO failed resulting in loss of fluid.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☑ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ☑ The source of the release has been stopped.
- ☑ The impacted area has been secured to protect human health and the environment.
- ☑ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☑ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Bruce Baker Title: Environmental Tech SR.

Signature: Bruce Baker Date: 11/1/2018

email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: **RECEIVED** *By Olivia Yu at 7:43 am, Nov 05, 2018* Date:

Volume Calculation

50X15X.2=150 cubic feet X 7.48 gallon per cubic foot= 1,122 gallons/42 gallons to barrel=26 barrels X .33 soil porosity= 8.8 barrels + 10 barrels recovered = 18.8 barrels lost.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	_____ (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☑ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☑ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☑ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☑ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☑ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☑ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☑ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☑ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☑ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☑ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☑ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☑ Field data
- ☑ Data table of soil contaminant concentration data
- ☑ Depth to water determination
- ☑ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☑ Boring or excavation logs
- ☑ Photographs including date and GIS information
- ☑ Topographic/Aerial maps
- ☑ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Bruce Baker Title: Environmental Tech. SR

Signature: Bruce Baker Date: 1-24-19

email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: Dylan Rose-Coss Date: 06/20/2019

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- [x] Detailed description of proposed remediation technique
- [x] Scaled sitemap with GPS coordinates showing delineation points
- [x] Estimated volume of material to be remediated
- [x] Closure criteria is to Table I specifications subject to 19.15.29.12(C)(4) NMAC
- [x] Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- [ ] Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- [ ] Extents of contamination must be fully delineated.
- [ ] Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Bruce Baker Title: Environmental Tech. SR

Signature: Bruce Baker Date: 1-24-19

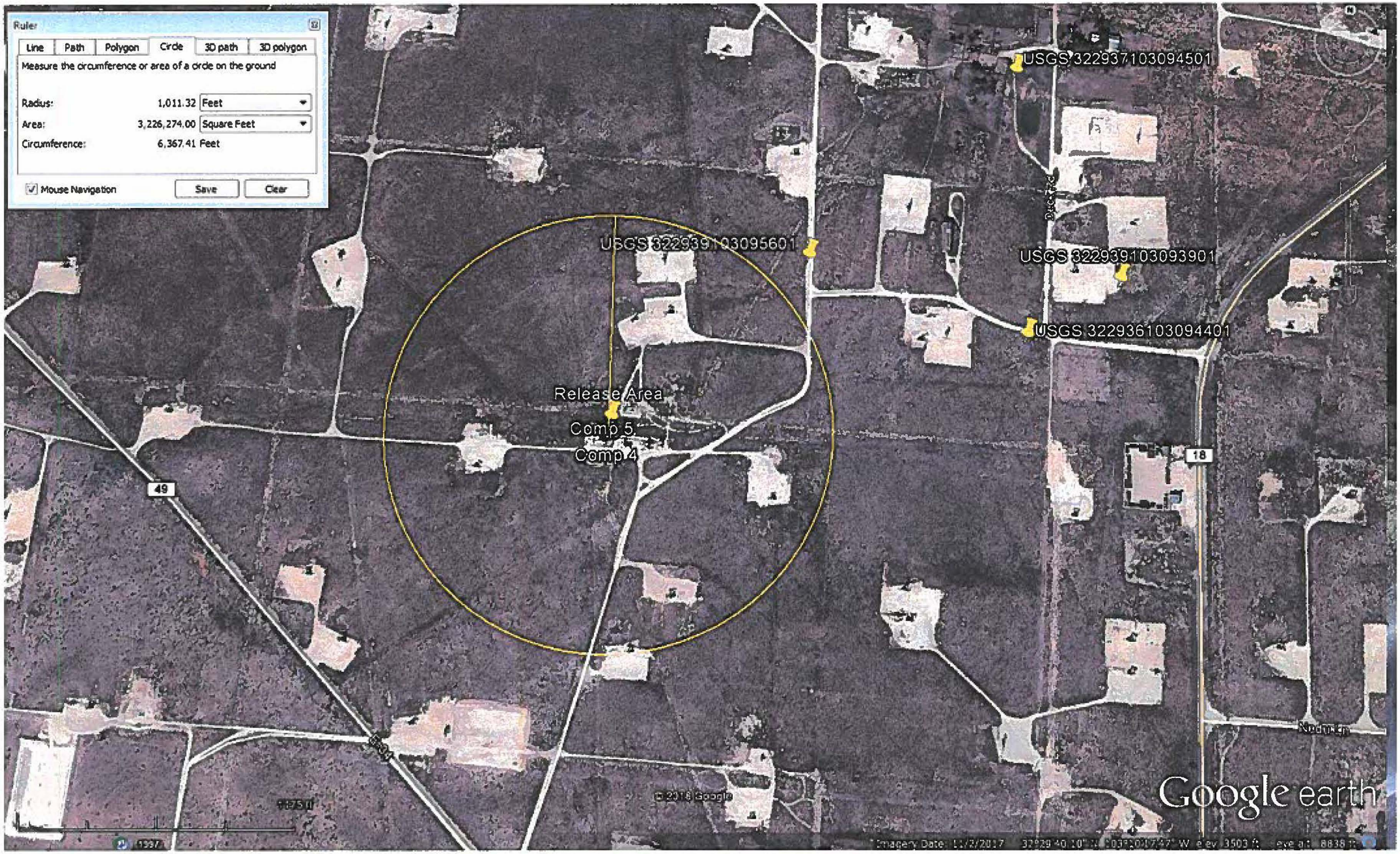
email: larry.baker@apachecorp.com Telephone: 432-631-6982

OCD Only

Received by: _____ Date: _____

- [ ] Approved
- [ ] Approved with Attached Conditions of Approval
- [ ] Denied
- [ ] Deferral Approved

Signature: _____ Date: _____


Ruler
Line
Path
Polygon
Circle
3D path
3D polygon
Measure the circumference or area of a circle on the ground
Radius: 1,011.32 Feet
Area: 3,226,274.00 Square Feet
Circumference: 6,367.41 Feet
Mouse Navigation
Save
Clear
USGS 322937103094501
USGS 322939103095601
USGS 322939103093901
USGS 322936103094401
Release Area
Comp 5
Comp 4
49
18
Google earth

USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: New Mexico | GO

Click to hideNews Bulletins

- Due to a lapse in appropriations, the majority of USGS websites may not be up to date and may not reflect current conditions. Websites displaying real-time data, such as Earthquake and Water and information needed for public health and safety will be updated with limited support. Additionally, USGS will not be able to respond to inquiries until appropriations are enacted. For more information, please see www.doi.gov/shutdown.

- Please see news on new formats
- Full News

Groundwater levels for New Mexico

Click to hide state-specific text

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322939103095601

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

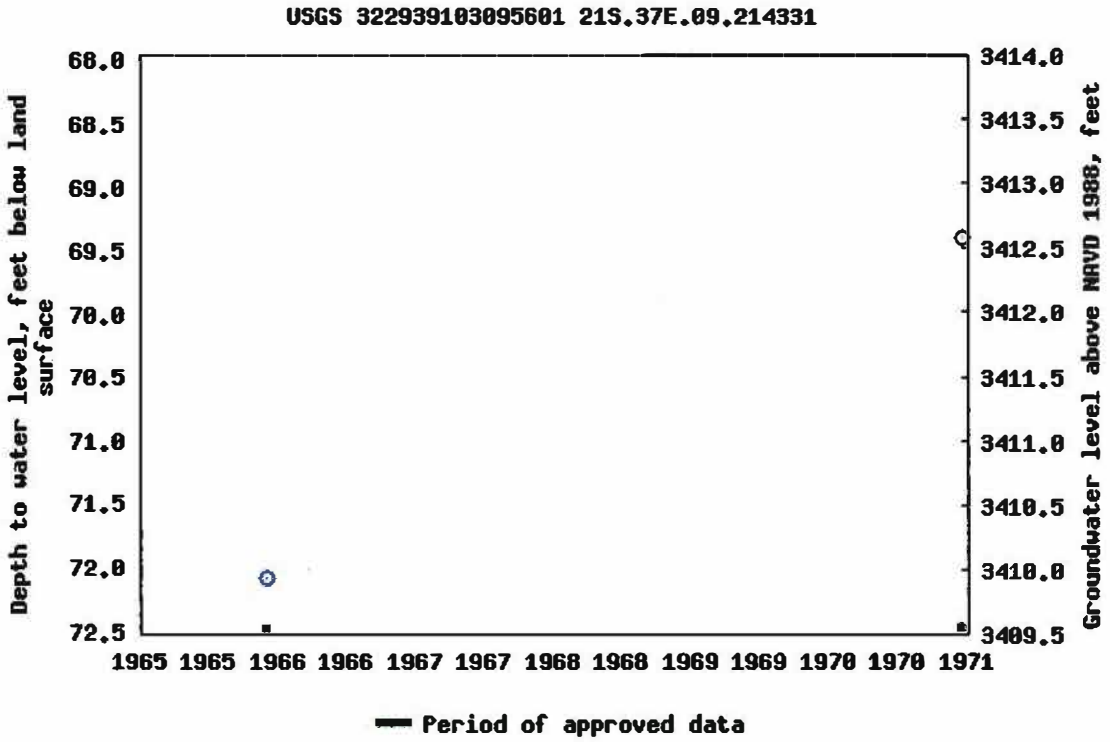
USGS 322939103095601 21S.37E.09.214331

Available data for this site | Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°29'39", Longitude 103°09'56" NAD27
Land-surface elevation 3,482 feet above NAVD88
The depth of the well is 400 feet below land surface.
This well is completed in the Chinle Formation (231CHNL) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.
Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Title: Groundwater for New Mexico: Water Levels
URL: https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?

Page Contact Information: New Mexico Water Data Maintainer
Page Last Modified: 2019-01-23 18:01:32 EST

1.4 1.1 nadww01

USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: New Mexico | GO

Click to hideNews Bulletins

- Due to a lapse in appropriations, the majority of USGS websites may not be up to date and may not reflect current conditions. Websites displaying real-time data, such as Earthquake and Water and information needed for public health and safety will be updated with limited support. Additionally, USGS will not be able to respond to inquiries until appropriations are enacted. For more information, please see www.doi.gov/shutdown.

- Please see news on new formats
- Full News

Groundwater levels for New Mexico

Click to hide state-specific text

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322936103094401

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 322936103094401 21S.37E.09.241213

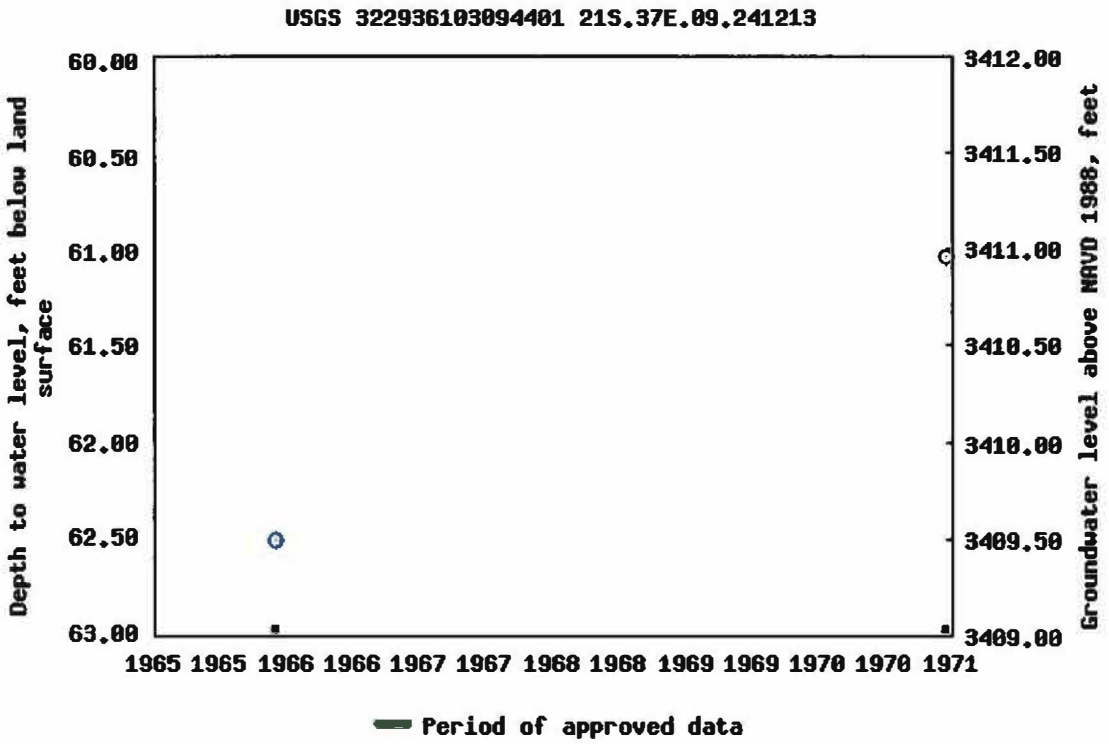
Available data for this site: Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°29'36", Longitude 103°09'44" NAD27
Land-surface elevation 3,472 feet above NAVD88
The depth of the well is 90 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.

Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Title: Groundwater for New Mexico: Water Levels
URL: https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?

Page Contact Information: New Mexico Water Data Maintainer
Page Last Modified: 2019-01-23 16:53:26 EST
1.11 0.92 nadww01

USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: New Mexico | GO

Click to hideNews Bulletins

- Due to a lapse in appropriations, the majority of USGS websites may not be up to date and may not reflect current conditions. Websites displaying real-time data, such as Earthquake and Water and information needed for public health and safety will be updated with limited support. Additionally, USGS will not be able to respond to inquiries until appropriations are enacted. For more information, please see www.doi.gov/shutdown.

- Please see news on new formats
- Full News

Groundwater levels for New Mexico

Click to hide state-specific text

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322939103093901

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 322939103093901 21S.37E.09.22430

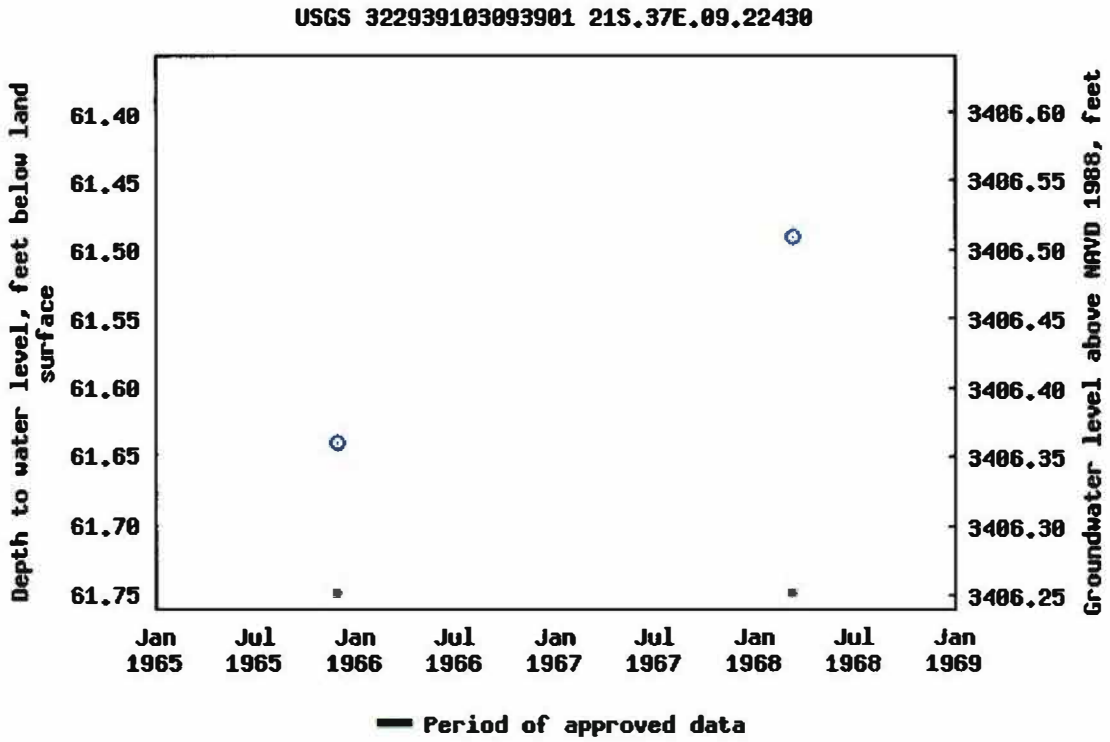
Available data for this site | Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°29'39", Longitude 103°09'39" NAD27
Land-surface elevation 3,468 feet above NAVD88
The depth of the well is 90 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



Breaks in the plot represent a gap of at least one year between field measurements.

Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Title: Groundwater for New Mexico: Water Levels
URL: https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?

Page Contact Information: New Mexico Water Data Maintainer
Page Last Modified: 2019-01-23 17:19:55 EST
1.11 0.98 nadww01

USGS Home
Contact USGS
Search USGS

National Water Information System: Web Interface

USGS Water Resources

Data Category: Groundwater | Geographic Area: New Mexico | GO

Click to hideNews Bulletins

- Due to a lapse in appropriations, the majority of USGS websites may not be up to date and may not reflect current conditions. Websites displaying real-time data, such as Earthquake and Water and information needed for public health and safety will be updated with limited support. Additionally, USGS will not be able to respond to inquiries until appropriations are enacted. For more information, please see www.doi.gov/shutdown.

- Please see news on new formats
- Full News

Groundwater levels for New Mexico

Click to hide state-specific text

Search Results -- 1 sites found

Agency code = usgs
site_no list =
- 322937103094501

Minimum number of levels = 1
Save file of selected sites to local disk for future upload

USGS 322937103094501 21S.37E.09.241211

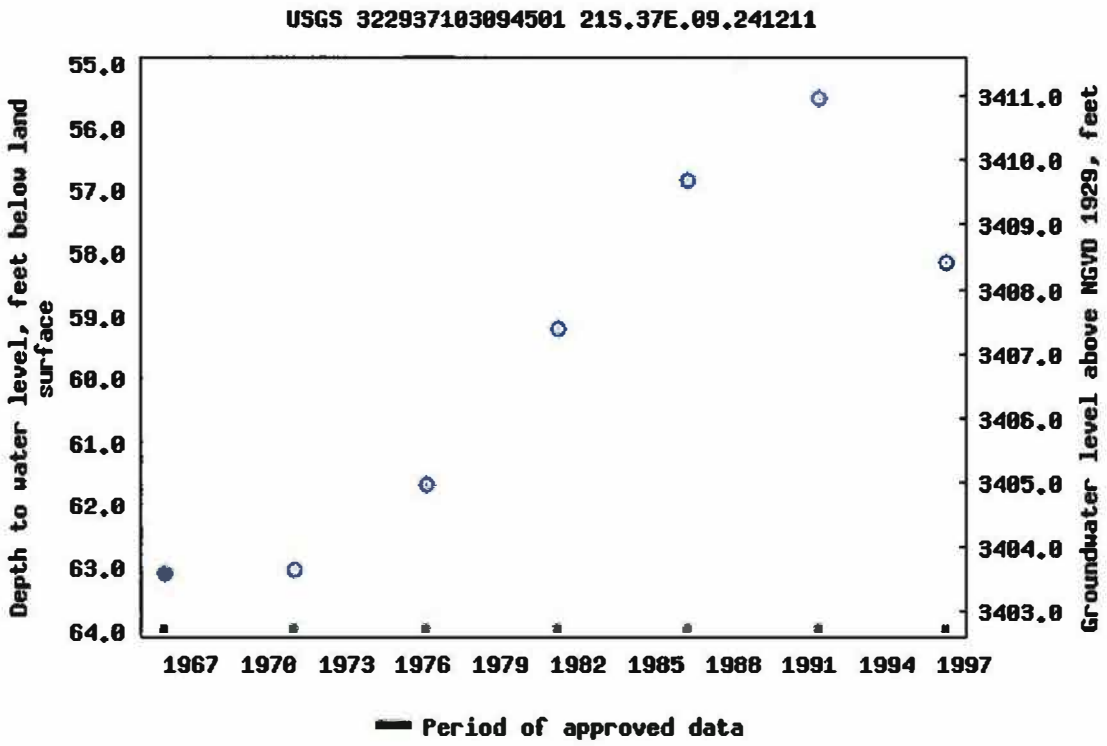
Available data for this site | Groundwater: Field measurements | GO

Lea County, New Mexico
Hydrologic Unit Code 13070007
Latitude 32°29'49", Longitude 103°09'45" NAD27
Land-surface elevation 3,466.60 feet above NGVD29
The depth of the well is 90 feet below land surface.

This well is completed in the Alluvium, Bolson Deposits and Other Surface Deposits (110AVMB) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period



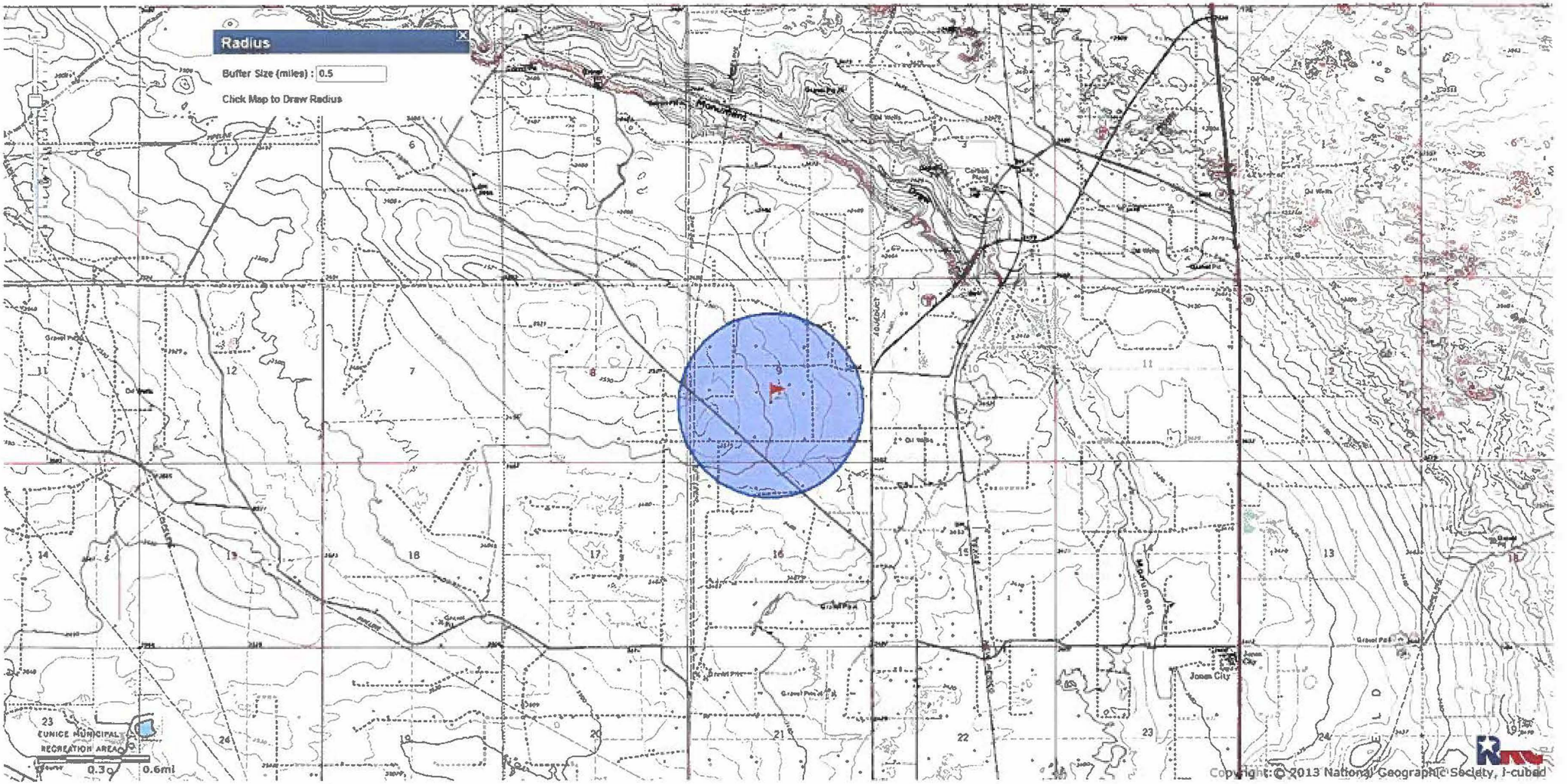
Breaks in the plot represent a gap of at least one year between field measurements.

Download a presentation-quality graph

Questions about sites/data?
Feedback on this web site
Automated retrievals
Help
Data Tips
Explanation of terms
Subscribe for system changes
News

Title: Groundwater for New Mexico: Water Levels
URL: https://nwis.waterdata.usgs.gov/nm/nwis/gwlevels?

Page Contact Information: New Mexico Water Data Maintainer
Page Last Modified: 2019-01-23 17:12:53 EST
1.18 1.07 nadww01


Radius
Buffer Size (miles) : 0.5
Click Map to Draw Radius
EUNICE MUNICIPAL RECREATION AREA
0.3
0.6mi
Jones City
Copyright © 2013 National Geographic Society, i-cubed


Comp 1
Comp 2
Comp 3
Comp 4
Comp 5
Comp 6
© 2018 Google
Google earth

Hawk B-1 Battery

Composite	GPS	Depth	Field CL	Lab CL	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX	GRO	DRO	EXT DRO
Comp 1	32.4918205 - 103.1682405	6"	410									
Comp 2	32.4918250 - 103.1682750	6"	406									
Comp 3	32.4918329 - 103.1683219	6"	269	64	<0.050	<0.050	0.133	0.477	0.61	<50	112	56.9
Comp 4	32.4917520 - 103.1681798	6"	271									
Comp 5	32.4917605 - 103.1682723	6"	271	80	<0.100	0.439	3.07	10	13.5	364	5270	859
Comp 6	32.4917820 - 103.1683394	6"	543									
SP 1	Same as Comp 6	1'			<0.100	3.27	12.4	31.3	47	1060	16400	3430

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

January 22, 2019

BRUCE BAKER

APACHE CORP - HOBBS

2350 W. MARLAND BLVD.

HOBBS, NM 88240

RE: HAWK

Enclosed are the results of analyses for samples received by the laboratory on 01/21/19 16:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received:	01/21/2019	Sampling Date:	01/21/2019
Reported:	01/22/2019	Sampling Type:	Soil
Project Name:	HAWK	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: COMPOSITE POINT 3 (H900204-01)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/22/2019	ND	1.75	87.5	2.00	0.474	
Toluene*	<0.050	0.050	01/22/2019	ND	1.80	89.9	2.00	0.0420	
Ethylbenzene*	**0.133**	0.050	01/22/2019	ND	1.78	88.8	2.00	3.20	
Total Xylenes*	**0.477**	0.150	01/22/2019	ND	5.25	87.4	6.00	1.31	
Total BTEX	**0.610**	0.300	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PIL *109 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	01/22/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<50.0	50.0	01/22/2019	ND	212	106	200	0.401	
DRO >C10-C28*	**112**	50.0	01/22/2019	ND	218	109	200	6.50	
EXT DRO >C28-C36	**56.9**	50.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane *91.1 %* *41-142*

Surrogate: 1-Chlorooctadecane *97.1 %* *37.6-147*

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received:	01/21/2019	Sampling Date:	01/21/2019
Reported:	01/22/2019	Sampling Type:	Soil
Project Name:	HAWK	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: COMPOSITE POINT 5 (H900204-02)

BTEX 8021B mg/kg Analyzed By: MS S-04

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	01/22/2019	ND	1.75	87.5	2.00	0.474	
Toluene*	**0.439**	0.100	01/22/2019	ND	1.80	89.9	2.00	0.0420	
Ethylbenzene*	**3.07**	0.100	01/22/2019	ND	1.78	88.8	2.00	3.20	
Total Xylenes*	**10.0**	0.300	01/22/2019	ND	5.25	87.4	6.00	1.31	
Total BTEX	**13.5**	0.600	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID 167 % 73.3-129

Chloride, SM4500Cl-B mg/kg Analyzed By: AC

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**80.0**	16.0	01/22/2019	ND	432	108	400	0.00	

TPH 8015M mg/kg Analyzed By: MS S-06

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**364**	50.0	01/22/2019	ND	212	106	200	0.401	
DRO >C10-C28*	**5270**	50.0	01/22/2019	ND	218	109	200	6.50	
EXT DRO >C28-C36	**859**	50.0	01/22/2019	ND					

Surrogate: 1-Chlorooctane 119 % 41-142

Surrogate: 1-Chlorooctadecane 209 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

APACHE CORP - HOBBS
BRUCE BAKER
2350 W. MARLAND BLVD.
HOBBS NM, 88240
Fax To: (575) 393-2432

Received:	01/21/2019	Sampling Date:	01/21/2019
Reported:	01/22/2019	Sampling Type:	Soil
Project Name:	HAWK	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SAMPLE POINT 1 @ 1' (H900204-03)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.100	0.100	01/22/2019	ND	1.75	87.5	2.00	0.474	
Toluene*	**3.27**	0.100	01/22/2019	ND	1.80	89.9	2.00	0.0420	
Ethylbenzene*	**12.4**	0.100	01/22/2019	ND	1.78	88.8	2.00	3.20	
Total Xylenes*	**31.3**	0.300	01/22/2019	ND	5.25	87.4	6.00	1.31	
Total BTEX	**47.0**	0.600	01/22/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID 97.0 % 73.3-129

TPH 8015M mg/kg **Analyzed By: MS** **S-06**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**1060**	100	01/22/2019	ND	212	106	200	0.401	
DRO >C10-C28*	**16400**	100	01/22/2019	ND	218	109	200	6.50	
EXT DRO >C28-C36	**3430**	100	01/22/2019	ND					

Surrogate: 1-Chlorooctane 163 % 41-142

Surrogate: 1-Chlorooctadecane 467 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name: Apache		**BILL TO**
Project Manager: Bruce Baker		P.O. #:
Address:		Company:
City: Hobbs	State: NM Zip: 88240	Attn:
Phone #:	Fax #:	Address:
Project #:	Project Owner:	City:
Project Name:		State: Zip:
Project Location: Hawk		Phone #:
Sampler Name:		Fax #:

Lab I.D. (FOR LAB USE ONLY)	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	Cl	TPH ext 3	BTEX
H900204																	
1	Composite Point 3	C				✓					✓		1-21	11:05AM	X	X	X
2	Composite Point 5	C				✓					✓		1-21	11:10AM	X	X	X
3	Sample Point 1 @ 1'	G				✓					✓		1-21	11:15AM		X	X

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

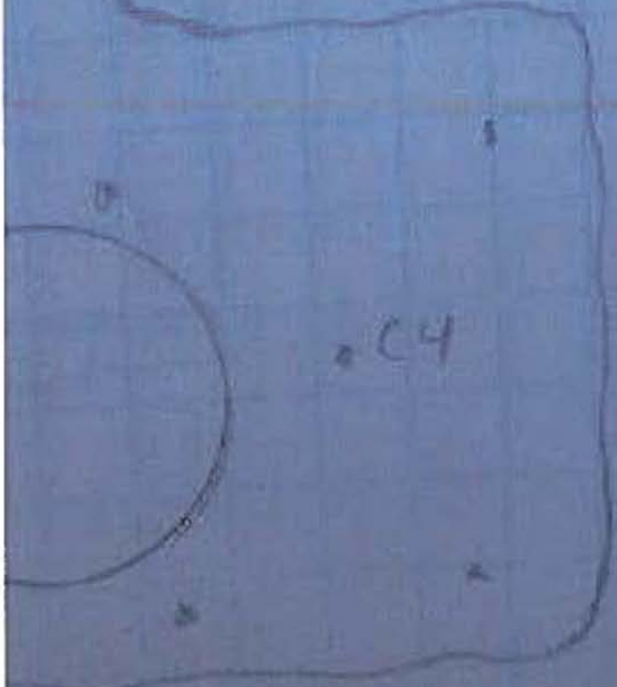
Relinquished By: [signature]	Date: 1-21-19 Time: 16:10	Received By: Tamara Oldaker	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 3.2°c #97	Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No	CHECKED BY: (Initials) TO	REMARKS: Email Results Rush

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

Hawk B1 Battery 1-21-19

Composit #1 =	11.1/30.2	0.15	2.74 =	410
Composit # 2 =	11.1/30.1	0.15	2.71 =	406
Composit # 3 =	11.1/30.0	0.10	2.70 =	269
Composit #4 =	11.0/30.0	0.15	2.72 =	271
Composit #5 =	11.0/30.0	0.10	2.72 =	271
Composit # 6 =	11.1/30.2	0.20	2.72 =	543

Com1 32.4918205 -103.1682405
Com2 32.4918250 -103.1682750
Com3 32.4918329 -103.1683219
Com4 32.4917520 -103.1681798
Com5 32.4917605 -103.1682723
Com6 32.4917820 -103.1683394
SP1 @ 1' got hard.



Hawk B-1 Battery Photos