



Facility Closure Investigation and Environmental Summary

Hagemeiser USC AA07-01 Wellhead

ECMC Remediation Project #36460

Weld County, Colorado

Attachments:

Figure 1 – General Location Map

Figure 2 – Wellhead Soil Sample and Field Screening Locations

Table 1 – Soil Sample and Field Screening Location Information

Table 2 – Soil Analytical Results Summary Table – Volatile Organics

Table 3 – Soil Analytical Results Summary Table – PAHs

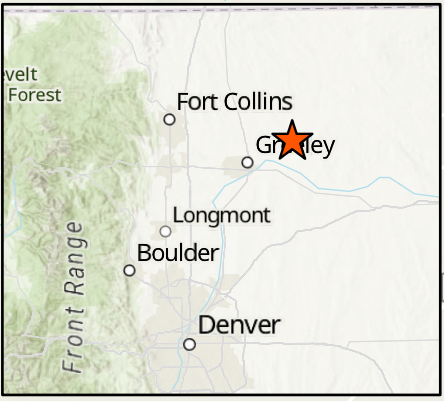
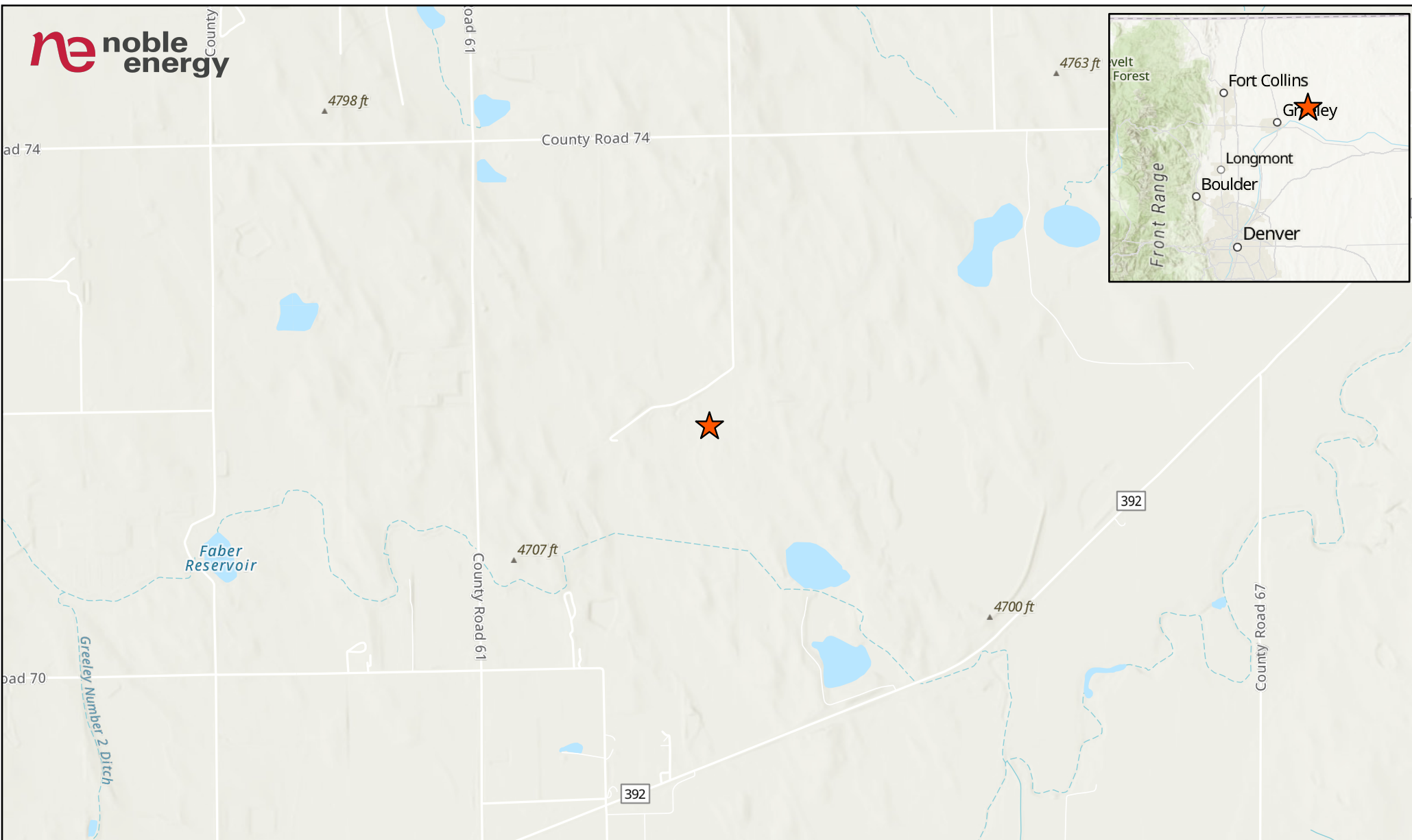
Table 4 – Soil Analytical Results Summary Table – Soil Suitability

Table 5 – Soil Analytical Results Summary Table – Metals

Attachment A: Photographic Log

Attachment B: Facility Closure Checklists

FIGURES



LEGEND

Site Location

0 0.5 1 Miles
1 inch = 0.5 Mile

| | |
|-------------|------------|
| Project No: | 024-491 |
| Map By: | JW |
| Date: | 10/30/2024 |

**HAGEMEISER USX AA07-01 WELLHEAD
 GENERAL LOCATION MAP**
 NOBLE ENERGY
 NE 1/4 NE 1/4 SECTION 7
 T6N R63W, 6TH PM
 WELD COUNTY, COLORADO



1843 Sunlight Dr.
 Longmont, CO 80504
 303.378.4036

| |
|--------|
| Figure |
| 1 |

| WH01-N@4 | |
|------------------|-------------|
| 9/9/2024 | |
| EC (mmhos/cm): | 8.28 |
| SAR: | 21.0 |
| Arsenic (mg/kg): | 3.20 |

| FLR01@4 | |
|------------------|-------------|
| 9/9/2024 | |
| EC (mmhos/cm): | 8.84 |
| SAR: | 25.2 |
| Arsenic (mg/kg): | 3.56 |

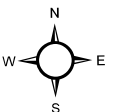
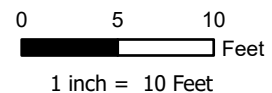
WH01@6 (0.8)
 WH01-W@4 (0.8)
 WH01-S@4 (0.6)

LABEL LEGEND
 XXXX@X: SAMPLE NAME @ DEPTH IN FEET
 WH: WELLHEAD SAMPLE
 FLR: FLOWLINE RISER SAMPLE
 EC: ELECTRICAL CONDUCTIVITY
 SAR: SODIUM ADSORPTION RATIO
RED: ABOVE ECMC TABLE 915-1 GWSSL

Legend

● Soil Sample ● Screening Location

NOTES:
 - Sample Label (PID Result in ppm)
 - ppm = parts per million
 - PID = photoionization detector



Project No: 024-491
 Map By: JW
 Date: 10/30/2024

**HAGEMEISER USX AA07-01 WELLHEAD
 SOIL SAMPLE AND FIELD SCREENING LOCATIONS**
 NOBLE ENERGY
 NE 1/4 NE 1/4 SECTION 7
 T6N R63W, 6TH PM
 WELD COUNTY, COLORADO



1843 Sunlight Drive
 Longmont, CO 80504
 303.378.4036

Figure
 2

TABLES

TABLE 1
FIELD DATA SUMMARY TABLE
NOBLE 100322
HAGEMEISER USX AA07-01, WELD COUNTY, COLORADO
REM # 36460

| Sample ID | Sample Date | Depth (ft-bgs) | GPS Data | | VOC Concentration (ppm) |
|-----------|-------------|----------------|--------------------|-------------|-------------------------|
| | | | Latitude/Longitude | | |
| WH01@6 | 9/9/2024 | 6 | 40.506953 | -104.471980 | 0.8 |
| FLR01@4 | 9/9/2024 | 4 | 40.506953 | -104.471958 | 0.9 |
| WH01-S@4 | 9/9/2024 | 4 | 40.506939 | -104.471979 | 0.6 |
| WH01-N@4 | 9/9/2024 | 4 | 40.506967 | -104.471981 | 21.9 |
| WH01-W@4 | 9/9/2024 | 4 | 40.506952 | -104.472004 | 0.8 |

1. Global Positioning System (GPS) data is provided in decimal degrees using North American Datum (NAD) 83 UTMZone 13 North.

2. Volatile organic compound (VOC) concentrations are measured in the field using a photoionization detector (PID).

ppm - Parts per million

ft-bgs - feet below ground surface

TABLE 2
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE 100322
HAGEMEISER USX AA07-01, WELD COUNTY, COLORADO
REM # 36460

| Sample ID | Sample Date | Depth (ft-bgs) | Benzene (mg/kg) | Toluene (mg/kg) | Ethyl-Benzene (mg/kg) | Xylenes (mg/kg) | 1,2,4-Trimethyl-Benzene (mg/kg) | 1,3,5-Trimethyl-Benzene (mg/kg) | Naphthalene (mg/kg) | TPH (mg/kg) | TPH GRO (mg/kg) | TPH DRO (mg/kg) | TPH ORO (mg/kg) |
|---|-------------|----------------|-----------------|-----------------|-----------------------|-----------------|---------------------------------|---------------------------------|---------------------|-------------|-----------------|-----------------|-----------------|
| ECMC Table 915-1 Limits (Residential SSL) | | | 1.2 | 490 | 5.8 | 58 | 30 | 27 | 2 | 500 | 500** | | |
| ECMC Table 915-1 Limits (Protection of Groundwater SSL) | | | 0.0026 | 0.69 | 0.78 | 9.9 | 0.0081 | 0.0087 | 0.0038 | 500 | 500** | | |
| FLR01@4 | 9/9/2024 | 4 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.002 | <125.200 | <0.200 | <25.0 | <100 |
| WH01-N@4 | 9/9/2024 | 4 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.002 | 0.302 | 0.302 | <25.0 | <100 |

1. Grey highlighted soil analytical values indicate result is less than laboratory reporting limit

2. ** Summation of GRO+DRO+ORO must be less than 500 mg/kg

ft-bgs - feet below ground surface

mg/kg - milligrams per kilogram

TABLE 3
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
NOBLE 100322
HAGEMEISER USX AA07-01, WELD COUNTY, COLORADO
REM # 36460

| Sample ID | Sample Date | Depth (ft-bgs) | Acenaphthene (mg/kg) | Anthracene (mg/kg) | Benzo (a) Anthracene (mg/kg) | Benzo (a) Pyrene (mg/kg) | Benzo (b) Fluoranthene (mg/kg) | Benzo (k) Fluoranthene (mg/kg) | Chrysene (mg/kg) | Dibenzo (a,h) Anthracene (mg/kg) | Fluoranthene (mg/kg) | Fluorene (mg/kg) | Indeno (1,2,3-cd) Pyrene (mg/kg) | Pyrene (mg/kg) | 1-Methyl - Naphthalene (mg/kg) | 2-Methyl - Naphthalene (mg/kg) |
|---|-------------|----------------|----------------------|--------------------|------------------------------|--------------------------|--------------------------------|--------------------------------|------------------|----------------------------------|----------------------|------------------|----------------------------------|----------------|--------------------------------|--------------------------------|
| ECMC Table 915-1 Limits (Residential SSL) | | | 360 | 1800 | 1.1 | 0.11 | 1.1 | 11 | 110 | 0.11 | 240 | 240 | 1.1 | 180 | 18 | 24 |
| ECMC Table 915-1 Limits (Protection of Groundwater SSL) | | | 0.55 | 5.8 | 0.011 | 0.24 | 0.3 | 2.9 | 9 | 0.096 | 8.9 | 0.54 | 0.98 | 1.3 | 0.006 | 0.019 |
| FLR01@4 | 9/9/2024 | 4 | <0.020 | <0.020 | <0.005 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.002 | <0.002 |
| WH01-N@4 | 9/9/2024 | 4 | <0.020 | <0.020 | <0.005 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.004 | 0.006 |

1. Grey highlighted soil analytical values indicate result is less than laboratory reporting limit

ft-bgs - feet below ground surface

mg/kg - milligrams per kilogram

TABLE 4
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
NOBLE 100322
HAGEMEISER USX AA07-01, WELD COUNTY, COLORADO
REM # 36460

| Sample ID | Sample Date | Depth (ft-bgs) | pH (Standard Units) | EC (mmhos/cm) | SAR (Standard Units) | Boron (mg/L) |
|--|-------------|----------------|---------------------------|------------------|----------------------------|-----------------|
| ECMC Table 915-1 Soil Suitability Limits | | | 6 - 8.3 | <4 | <6 | 2 |
| FLR01@4 | 9/9/2024 | 4 | 8.29 | 8.84 | 25.2 | 0.690 |
| WH01-N@4 | 9/9/2024 | 4 | 8.22 | 8.28 | 21.0 | 0.804 |

1. **RED** - Above ECMC Table 915-1 Standards

ft-bgs - feet below ground surface

EC - Electrical Conductivity

SAR - Sodium adsorption ratio

mmhos/cm - millimhos per centimeter

mg/L - milligrams per liter

TABLE 5
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
NOBLE 100322
HAGEMEISER USX AA07-01, WELD COUNTY, COLORADO
REM # 36460

| Sample ID | Sample Date | Depth (ft-bgs) | Arsenic (mg/kg) | Barium (mg/kg) | Cadmium (mg/kg) | Chromium (VI) (mg/kg) | Copper (mg/kg) | Lead (mg/kg) | Nickel (mg/kg) | Selenium (mg/kg) | Silver (mg/kg) | Zinc (mg/kg) |
|---|-------------|----------------|-----------------|----------------|-----------------|-----------------------|----------------|--------------|----------------|------------------|----------------|--------------|
| ECMC Table 915-1 Limits (Residential SSL) | | | 0.68 | 15000 | 71 | 0.3 | 3100 | 400 | 1500 | 390 | 390 | 23000 |
| ECMC Table 915-1 Limits (Protection of Groundwater SSL) | | | 0.29 | 82 | 0.38 | 0.00067 | 46 | 14 | 26 | 0.26 | 0.8 | 370 |
| FLR01@4 | 9/9/2024 | 4 | 3.56 | 38.9 | <0.0851 | <0.137* | <8.51 | 4.45 | 4.53 | <0.221 | <0.0851 | <31.5 |
| WH01-N@4 | 9/9/2024 | 4 | 3.20 | 44.1 | 0.0935 | <0.130* | <8.82 | 5.90 | 5.28 | <0.229 | <0.0882 | <32.6 |

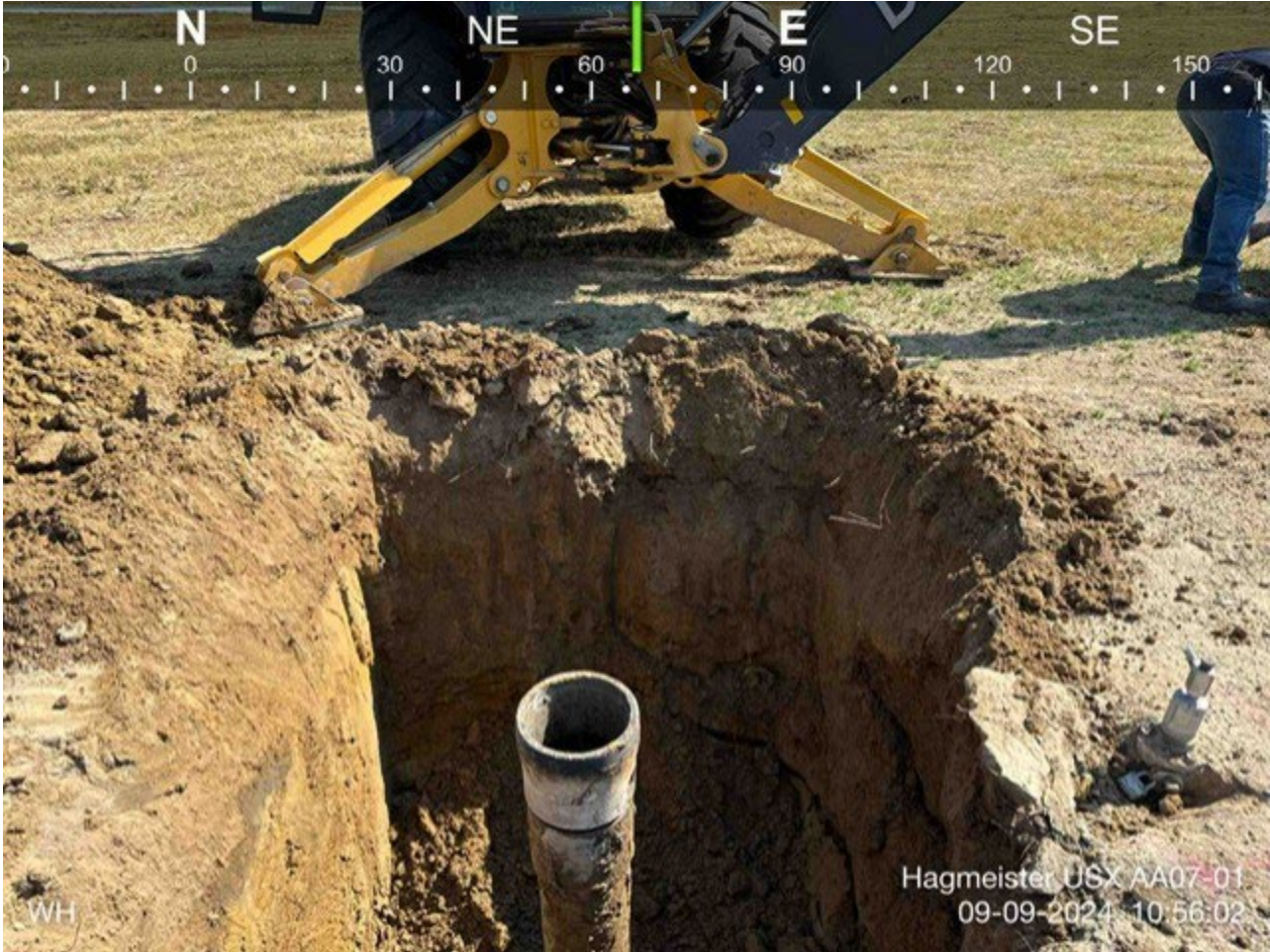
1. **RED** - Above ECMC Table 915-1 Standards
 2. Red highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
 3. Grey highlighted soil analytical values indicate result is less than laboratory reporting limit
- * Indicates laboratory reporting or minimum detection limit in excess of SSL
- ft-bgs - feet below ground surface
mg/kg - milligrams per kilogram

**ATTACHMENT A
PHOTOGRAPHIC LOG**

Hagmeister USX AA07-01 Wellhead Photographic Log



Hagmeiser USX AA07-01 Wellhead Photographic Log



Hagmeister USX AA07-01 Wellhead Photographic Log



Hagmeister USX AA07-01 Wellhead Photographic Log



**ATTACHMENT B
FACILITY CLOSURE CHECKLISTS**

Wellhead Closure Checklist

COGCC Rule 911.a.(4) Environmental Site Closure Assessment Field Form

| Additional attachments (optional): | | Pit Closure | | Tank Battery Closure | | Flowline Closure | | Partially Buried Vault Closure | |
|--|--------------------|--------------------------------------|--|--|--|------------------|-------------------------|--------------------------------|--|
| Site Name & COGCC Facility Number: Hagemeyer-USX AA7-1, 292020 | | Date: 9/9/2024 | | | | | | Remediation Project #: 36460 | |
| Associated Wells: N/A | | Age of Site: 9/4/2007 - spud date | | | | | | Number of Photos Attached: 4 | |
| Location: (GPS coordinates of wellhead or southeastern most wellhead for multiple) | | | | | | | 40.506959 / -104.471983 | | |
| Estimated Facility Size (acres): ~0,01 | | | | | | | | | |
| General Condition of Site: (General observations regarding housekeeping, corrosion, waste management, etc.) Overall good | | | | | | | | | |
| USCS Soil Type: SM | | | | Estimated Depth to Groundwater: Unknown as none encountered | | | | | |
| Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) None encountered or observed | | | | | | | | | |
| Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) None encountered or observed | | | | | | | | | |
| Wellhead(s) | | | | | | | | | |
| Well API | 05-123-26208 | | | | | | | | |
| Age | 9/4/07 - spud date | | | | | | | | |
| Condition of surface around wellhead | Good | | | | | | | | |
| PID Readings | 0.6-21.9 ppm | | | | | | | | |
| Condition of subsurface (staining present) | Good | | | | | | | | |
| PID Readings | 0.8 ppm | | | | | | | | |
| Sample taken? Location/Sample ID# | WH01@6 | | | | | | | | |
| Photo Number(s) | 1-4 | | | | | | | | |
| Other observations regarding wellheads: | | | | | | | | | |
| Summary | | | | | | | | | |
| Was impacted soil identified? <input checked="" type="radio"/> No Yes - less than 10 cubic yards Yes - more than 10 cubic yards | | | | | | | | | |
| Total number of samples field screened: 5 | | | Total number of samples collected: 5 | | | | | | |
| Highest PID Reading: 21.9 ppm | | | Total number of samples submitted to lab for analysis: 1 | | | | | | |
| If more than 10 cubic yards of impacted soil were observed: | | | | | | | | | |
| Vertical extent: | | | | Estimated spill volume: | | | | | |
| Lateral extent: | | | | Volume of soil removed: | | | | | |
| Is additional investigation required? | | | | | | | | | |
| Was groundwater encountered during the investigation? <input checked="" type="radio"/> No Yes - not impacted or in contact with impacted soils Yes - groundwater impacted and/or in contact with impacted soils | | | | | | | | | |
| Measured depth to groundwater: | | | | Was remedial groundwater removal conducted? Yes No | | | | | |
| Date Groundwater was encountered: | | | | Commencement date of removal: | | | | | |
| Sheen on groundwater? Yes No | | | | Volume of groundwater removed prior to sampling: | | | | | |
| Free product observed? Yes No | | | | Volume of groundwater removed post sampling: | | | | | |
| Total number of samples collected: | | | | Total Volume of groundwater removed: | | | | | |
| Total number of samples submitted to lab for analysis: | | | | | | | | | |