



- LEGEND**
- TARGA'S ACTIVE INJECTION WELL
 - MONITOR WELL LOCATION (SHALLOW)
 - MONITOR WELL LOCATION (DEEP)
 - RECOVERY WELL LOCATION
 - WATER WELL LOCATION (INACTIVE)
 - OFFSITE PROPERTY WELLS "NOT SAMPLED"
 - HYDROCARBON INVESTIGATION AREA
 - CHLORIDE INVESTIGATION AREA
 - 3280.00 GROUNDWATER ELEVATION CONTOUR
 - 3280.00 GROUNDWATER ELEVATION (FEET)
 - REGIONAL GROUNDWATER FLOW DIRECTION

- NOTES:**
1. GROUNDWATER ELEVATIONS WERE COLLECTED IN AUGUST 2009.
 2. DEPTH TO GROUNDWATER WAS GAUGED FROM TOP OF CASING.
 3. CONTOUR INTERVAL IS 0.5 FEET.
 4. RW-2, RW-3, RW-4, RW-5, AND MW-28 WERE NOT HONORED IN THE GROUNDWATER ELEVATION CONTOURS.

- NOTES:**
1. A SUBSURFACE INVESTIGATION WAS PERFORMED IN THE DIRECT VICINITY OF THE SLOP OIL SUMP IN JULY 1996. THE INVESTIGATION INCLUDED THE INSTALLATION OF A SINGLE SOLE BORING SOUTH OF THE SUMP TO A TD OF 57 FEET BGS. ANALYTICAL RESULTS INDICATED HYDROCARBON IMPACTS AT DEPTH AND LIGHT NON-AQUEOUS PHASE (LNAPL) WAS ENCOUNTERED ON THE INTERMEDIATE SOILS AT 17 FEET BGS AND LNAPL WAS ENCOUNTERED ON THE INTERMEDIATE SOILS AT 27 FEET BGS. REMEDIAL ACTIVITIES FOR THE SUMP OIL SUMP INCLUDED REMOVAL OF THE SUMP IN SEPTEMBER 2000. THE EXCAVATION AREA MEASURED 22 X 22 X 10'. CONFIRMATION SAMPLES FROM THE EXCAVATION AT DEPTH (TD) INDICATED HYDROCARBON IMPACTS IN THE SOILS. REMEDIAL ACTIVITIES ARE DETAILED IN THE 2000 ANNUAL SUMMARY OF INVESTIGATION & REMEDIATION GENERATED BY HIGHLANDER ENVIRONMENTAL CORP. IN 2001.
 2. A SUBSURFACE INVESTIGATION WAS PERFORMED IN THE DIRECT VICINITY OF THE OIL & WATER SUMP IN AUGUST 1996. THE INVESTIGATION INCLUDED THE INSTALLATION OF A SINGLE SOLE BORING SOUTH OF THE SUMP TO A TD OF 57 FEET BGS. ANALYTICAL RESULTS INDICATED HYDROCARBON IMPACTS IN THE INTERMEDIATE SOILS AT 17 FEET BGS AND LNAPL WAS ENCOUNTERED ON THE INTERMEDIATE SOILS AT 27 FEET BGS. REMEDIAL ACTIVITIES FOR THE SUMP OIL SUMP INCLUDED REMOVAL OF THE SUMP IN SEPTEMBER 2000. THE EXCAVATION AREA MEASURED 22 X 22 X 10'. CONFIRMATION SAMPLES FROM THE EXCAVATION AT DEPTH (TD) INDICATED HYDROCARBON IMPACTS IN THE SOILS. REMEDIAL ACTIVITIES ARE DETAILED IN THE 2000 ANNUAL SUMMARY OF INVESTIGATION & REMEDIATION GENERATED BY HIGHLANDER ENVIRONMENTAL CORP. IN 2001.
 3. A SUBSURFACE INVESTIGATION WAS PERFORMED IN THE DIRECT VICINITY OF THE JET TURBINE BMD IN AUGUST 1996. THE INVESTIGATION INCLUDED THE INSTALLATION OF 3 SHALLOW SOLE BORINGS SOUTH OF THE SUMP TO A TD OF 10 FEET BGS. ANALYTICAL RESULTS INDICATED HYDROCARBON IMPACTS TO BOTH THE SOILS AND GROUNDWATER IN ALL 3 BORINGS. TWO OF THE THREE BORINGS WERE CONVERTED TO MONITOR WELLS (MW 1 & MW 2). INVESTIGATION ACTIVITIES ARE SUMMARIZED IN THE SUBSURFACE ENVIRONMENTAL ASSESSMENT GENERATED BY HIGHLANDER ENVIRONMENTAL CORP. DATED SEPTEMBER 1996.
 4. TWO SEPARATE SHALLOW SUBSURFACE INVESTIGATIONS WERE CONDUCTED IN THE VICINITY OF ENGINE SUMP #8 IN AUGUST 1996 AND JUNE 1997. THE AUGUST 1996 INVESTIGATION INCLUDED THE INSTALLATION OF A SINGLE SHALLOW SOLE BORING DIRECTLY NORTH OF THE SUMP TO A TD OF 10 FEET BGS. ANALYTICAL RESULTS AT 10 FEET BGS INDICATED HYDROCARBON IMPACTS AT DEPTH. THE JUNE 1997 INVESTIGATION INCLUDED THE INSTALLATION OF THREE ADDITIONAL SHALLOW BORINGS EAST, WEST & SOUTH OF THE SUMP TO A MAXIMUM DEPTH OF 4 FEET BGS. NO HYDROCARBONS WERE DETECTED IN ANY OF THE THREE BORINGS AT DEPTH (4 FEET). INVESTIGATION ACTIVITIES ARE SUMMARIZED IN THE FINAL INVESTIGATION REPORT GENERATED BY HIGHLANDER ENVIRONMENTAL CORP. DATED JULY 1997.
 5. A SHALLOW SUBSURFACE INVESTIGATION WAS PERFORMED IN THE VICINITY OF ENGINE SUMP #11 IN AUGUST 1996. THIS INVESTIGATION INCLUDED THE INSTALLATION OF A SINGLE SOLE BORING SOUTH OF THE SUMP TO A TD OF 4 FEET BGS. NO HYDROCARBONS IMPACTS WERE DETECTED AT DEPTH. INVESTIGATION ACTIVITIES ARE SUMMARIZED IN THE SUBSURFACE ENVIRONMENTAL ASSESSMENT GENERATED BY HIGHLANDER ENVIRONMENTAL CORP. DATED SEPTEMBER 1996.
 6. A SHALLOW SUBSURFACE INVESTIGATION WAS CONDUCTED ON THE SOUTHWEST CORNER OF THE ENGINE SUMP #8 IN AUGUST 1996. THE INVESTIGATION INCLUDED A SHALLOW TRENCH (TEST PIT) THAT WAS EXCAVATED TO 5 FEET BGS. CONFIRMATION SAMPLES AT DEPTH (5 FEET BGS) WERE BELOW LABORATORY DETECTION LIMITS. INVESTIGATION ACTIVITIES ARE SUMMARIZED IN THE SUBSURFACE ENVIRONMENTAL ASSESSMENT GENERATED BY HIGHLANDER ENVIRONMENTAL CORP. DATED SEPTEMBER 1996.
 7. AN INTERMEDIATE SUBSURFACE INVESTIGATION WAS PERFORMED IN THE VICINITY OF THE HSB FLARE SUMP IN AUGUST 1996. THE INVESTIGATION INCLUDED THE INSTALLATION OF A SINGLE SOLE BORING TO A TD OF 27 FEET BGS. HYDROCARBON IMPACTS WERE DETECTED IN THE SHALLOW (0-50 FEET) SOILS NEAR THE HSB FLARE SUMP. ANALYTICAL RESULTS AT THE 27 FEET BGS INTERIM WERE BELOW LABORATORY DETECTION LIMITS. INVESTIGATION ACTIVITIES ARE SUMMARIZED IN THE SUBSURFACE ENVIRONMENTAL ASSESSMENT GENERATED BY HIGHLANDER ENVIRONMENTAL CORP. DATED SEPTEMBER 1996.
 8. A SUBSURFACE INVESTIGATION WAS PERFORMED IN THE DIRECT VICINITY OF FIELD OIL PIT #1 IN NOVEMBER 1996. THE INVESTIGATION INCLUDED THE INSTALLATION OF A SINGLE SOLE BORING TO A TD OF FORTY-FOUR (44) FEET BELOW GROUND SURFACE (BGS). ANALYTICAL RESULTS INDICATED HYDROCARBON IMPACTS EXTENDED TO 40 FEET BGS. GROUNDWATER WAS NOT ENCOUNTERED DURING THE INSTALLATION OF THE BORING. INVESTIGATION ACTIVITIES ARE SUMMARIZED IN THE FINAL INVESTIGATION REPORT GENERATED BY HIGHLANDER ENVIRONMENTAL CORP. DATED JUNE 2000. REMEDIAL ACTIVITIES FOR THE FIELD OIL PIT #1 INCLUDED OVER EXCAVATION ACTIVITIES THAT WERE PERFORMED IN FEBRUARY 2000. A TOTAL OF 310 CUBIC YARDS OF SOIL WERE REMOVED. REMEDIAL ACTIVITIES ARE DETAILED IN THE 2000 ANNUAL SUMMARY OF INVESTIGATION & REMEDIATION GENERATED BY HIGHLANDER ENVIRONMENTAL CORP. IN 2001.
 9. THE EAST SUMP WAS CONSTRUCTED OF CONCRETE AND MEASURED 5 X 35 FEET. THE EAST SUMP WAS REMOVED IN SEPTEMBER 2000 AND THE AREA WAS OVER EXCAVATED TO APPROXIMATELY 2 X 12 X 10'. CONFIRMATION SAMPLES FROM THE EXCAVATION AT DEPTH (5) INDICATED HYDROCARBON IMPACTS IN THE SOILS. REMEDIAL ACTIVITIES ARE DETAILED IN THE 2000 ANNUAL SUMMARY OF INVESTIGATION & REMEDIATION GENERATED BY HIGHLANDER ENVIRONMENTAL CORP. IN 2001.
 10. A SUBSURFACE INVESTIGATION WAS PERFORMED IN THE DIRECT VICINITY OF THE CONCRETE DRAIN SUMP IN SEPTEMBER 2000. THE INVESTIGATION INCLUDED THE INSTALLATION OF A SINGLE SOLE BORING TO A TD OF 10 FEET BGS. ANALYTICAL RESULTS INDICATED HYDROCARBON IMPACTS AT DEPTH. REMEDIAL ACTIVITIES FOR THE CONCRETE DRAIN SUMP INCLUDED REMOVAL OF THE SUMP IN SEPTEMBER 2000. THE EXCAVATION AREA MEASURED 8 X 13 X 10'. CONFIRMATION SAMPLES FROM THE EXCAVATION AT DEPTH (TD) INDICATED HYDROCARBON IMPACTS IN THE SOILS. BOTH INVESTIGATION AND REMEDIATION ACTIVITIES ARE SUMMARIZED IN THE 2000 ANNUAL SUMMARY OF INVESTIGATION & REMEDIATION GENERATED BY HIGHLANDER ENVIRONMENTAL CORP. IN 2001.
 11. THE NORTH BRINE WATER RETENTION POND (POND #2) MEASURES APPROXIMATELY 260 X 100 X 10' AND HAS A DESIGNED CAPACITY OF 700,000 BARRELS (BRBL). USAGE OF THIS POND WAS DISCONTINUED IN EARLY 1999. THE NORTH BRINE WATER RETENTION POND WAS CAPPED AND CROWNED WITH A CLS CAP IN LATE 2000.
 12. THE SOUTH BRINE WATER RETENTION POND (POND #4) MEASURES APPROXIMATELY 100 X 240 X 10' AND HAS A DESIGNED CAPACITY OF 520,000 BARRELS (BRBL). USAGE OF THIS POND WAS DISCONTINUED IN MID 1998. THE SOUTH BRINE WATER RETENTION POND WAS CAPPED AND CROWNED WITH A CLS CAP IN LATE 2000.
 13. THE FORMER TANK BATTERY LOCATION WAS STRUCK BY LIGHTNING IN MAY 2000. THIS FORMER TANK BATTERY LOCATION WAS USED FOR FLUID LNAPL. AS PROCEEDED WATER STORAGE BY THE GROUNDWATER REMEDIATION DIVISION LOCATED ON THE EAST SIDE OF THE PLANT. APPROXIMATELY 300 BBL'S OF FLUID WERE RELEASED AND 200 BBL'S WERE RECOVERED. DISPOSITION OF THE FORMER TANK BATTERY IS SUMMARIZED IN A TRANSMITTAL LETTER OF A SEMI-ANNUAL GROUNDWATER MONITORING REPORT FOR THE EDGEC SOUTH GAS PLANT GENERATED BY SECOR INTERNATIONAL INC. DATED MARCH 3, 2000.
 14. A SUBSURFACE INVESTIGATION WAS CONDUCTED IN THE VICINITY OF THE FORMER TRUCK BATTERY AREA LOCATED SOUTH OF THE PLANT IN NOVEMBER 2000. THE INVESTIGATION INCLUDED THE INSTALLATION OF 3 BORINGS. GROUNDWATER HYDROCARBON IMPACTS WERE DETECTED IN THE SHALLOW (0-10 FEET BGS) AND IN THE INTERMEDIATE (20-30 FEET BGS) IN AT LEAST ONE BORING. OF THE THREE WELLS WERE CONVERTED INTO MONITOR WELLS (MW 32 & MW 33). INVESTIGATION ACTIVITIES ARE SUMMARIZED IN THE 2000 ANNUAL SUMMARY OF INVESTIGATION & REMEDIATION FOR THE SOUTH URANCE GAS PLANT GENERATED BY SECOR INTERNATIONAL INC. IN LATE 2000.
 15. THE NORTHWEST BRINE WATER RETENTION POND (POND #3) WAS CAPPED IN JULY 2007. DEMOLITION ACTIVITIES OF THE SOUTHWEST BRINE WATER RETENTION POND (POND #5) ARE SUMMARIZED IN THE 2007 ANNUAL SUMMARY OF INVESTIGATION & REMEDIATION FOR THE SOUTH URANCE GAS PLANT GENERATED BY SECOR INTERNATIONAL IN MARCH 7, 2007.

SCALE VERIFICATION
THIS BAR MEASURES 1" ON ORIGINAL. ADAPT SCALE ACCORDINGLY.

Chevron Environmental Management Company
EUNICE SOUTH
GROUNDWATER GRADIENT MAP
SHALLOW WELLS - AUGUST 2009

Source Reference:	USGS 1998 AERIAL
Project Manager:	J. ORNELAS
Reviewed By:	T. LARSON
Date:	AUGUST 2009
Scale:	1:100
Project No.:	055271-09
Report No.:	002
Drawn:	0